Price: £1.95

ST APPLICATIONS

The Magazine for Users of Atari ST, STE, Falcon and TT Computers

Issue No. 29, May 1993

THIS MONTH

Reviews

- Calamus SL
- Fonty
- National Curriculum s/w
- Spiritware Concordance
- Scanlite
- AIM

Articles

- DTP on the Atari ST
- Beginners' Forum
- Superbase Tutorial

Regulars

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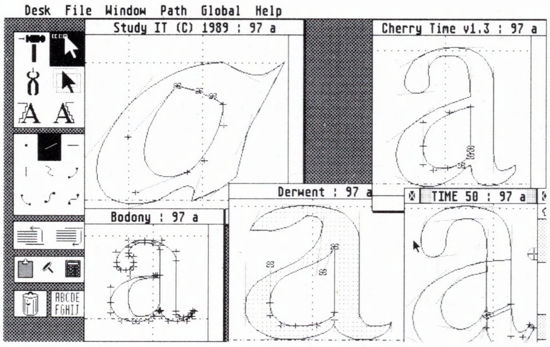
- CAD Column
- STicks and STones
- Desktop Discussions
- Programmers' Forum
- Going On-Line
- Forum
- Grafix Arts
- PD Update

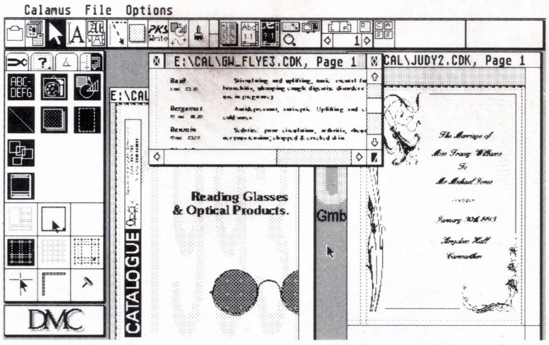
Fonty

Graham McMaster reviews a Calamus font editor that allows up to seven windows to be opened and filled with different Calamus fonts in the foreground and either GEM fonts or Degas images in the background. You may thus convert a GEM font into a Calamus vector font and then use Fontkit's 'Import Calamus' option to generate whole GEM font families in a range of point sizes.


Desk File Window Path Global Help
Study IT (C) 1989 : 97 a
Cherry Time v1.3 : 97 a
Derwent : 97 a
TIME 58 : 97 a
Bodony : 97 a
ABCDE FGHIJ

Calamus SL

With Calamus 1.09 starting to show its age, DMC now offer the powerful Calamus SL. Among its many other talents, it boasts full colour separation, unrivalled accuracy, multi-document editing and a universal clipboard capable of storing as many frames as you care to throw at it. Calamus S is its cut-down junior sibling, available at a price in the reach of mere mortals. Nial Grimes reviews both.

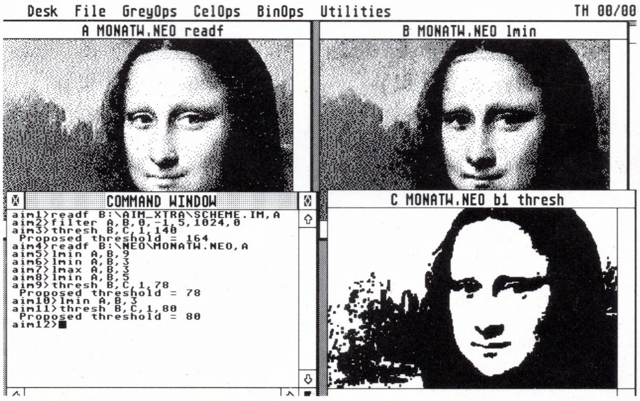

Calamus File Options
E:\CAL\GW_FLYE3.CDK, Page 1
CAL\JUDY2.CDK, Page 1
E:\CAL
Reading Glasses & Optical Products.
CATALOGUE
Gmb
DMC

Printed in the U.K.

Scanlite

Imported by Ladbroke Computing from the American company Dr BobWare, Scanlite is a piece of software that may be run either as a stand-alone program or as an accessory. In the latter mode it enables the user to scan images into its buffer, whence they may be loaded into the currently running art or DTP program.

AIM


Desk File GreyOps CelOps BinOps Utilities
TH 80/80
A MONATW.NEO readf
B MONATW.NEO lmin
C MONATW.NEO bi thresh
COMMAND WINDOW

```
aim1>readf B:\AIM_XTRA\SCHEME.IM,A
aim2>filter A,B,0,-1,5,1024,0
aim3>thresh B,C,1,140
 Proposed threshold = 164
aim4>readf B:\NEO\MONATW.NEO,A
aim5>lmin A,B,9
aim6>lmin A,B,3
aim7>lmax A,B,3
aim8>lmin A,B,5
aim9>thresh B,C,1,78
 Proposed threshold = 78
aim10>lmin A,B,3
aim11>thresh B,C,1,80
 Proposed threshold = 80
aim12>█
```

Developed at Delft University as a tool for pattern recognition research and distributed as an entry-level appetizer for the art of image processing, the Atari Image Manager is a kit capable of all kinds of interesting results with graphics files.

Choosing a memory upgrade for your Atari ST?

The Xtra-RAM Deluxe is the answer!

Using industry standard SIMMs (like ST^{E}s) the Xtra-RAM Deluxe lets you upgrade all the way to 4Mb. It works with all Memory Management Unit (MMU) chip types, whether they are soldered down or socketed. If your ST has a soldered down Video Shifter chip or a 101601 type MMU chip then some soldering will be required.

Each Xtra-RAM Deluxe upgrade is supplied with a full two year warranty. Full technical support is simply a telephone call or letter away, whether you live in England or Singapore.

Atari ST Review: *"One of the best boards available for the ST."*

ST Format: *"The Xtra-RAM can be fitted easily ... even by a novice." 87%*

Deluxe with 0Mb	**£ 34.99**
Deluxe with $^1/_2$Mb	**£ 59.99**
Deluxe with 2Mb	**£119.99**
Deluxe with 4Mb	**£189.99**

Plus **£3** Postage & Packing per order

Marpet
DEVELOPMENTS

Searching for a reliable Clock Cartridge? The Forget-Me-Clock II is the original and best!

With the Forget-Me-Clock II plugged into your ST or ST^E's cartridge port, the system clock (used by the Control Panel) and keyboard clock will automatically be set at turn on or reset. No longer will you have to waste time setting your ST's clock each day.

Installation couldn't be simpler - you just plug it in and turn on your ST. With a full two year warranty, why not join almost eight thousand satisfied users?

Atari ST Review: *"A good, well engineered product. Get one now." 91%*

ST Format: *"The famous Forget-Me-Clock II Cartridge" 89%*

Forget-Me-Clock II Cartridge	**£21.99**

Plus **£2** Postage & Packing per order

Buy the Xtra-RAM ST^E Memory Upgrade!

There are many suppliers of memory upgrades for ST^E machines. Not all cater for your particular needs. Most ST^{E}s require Single In-line Memory Modules, commonly referred to as SIMMs. A number of machines require SIPs - these are like SIMMs but use pins instead of an edge connector.

Each and every ST^E upgrade supplied by Marpet Developments contains all that is necessary to upgrade ST^{E}s requiring either SIMMs or SIPs. This is achieved through the use of a special adaptor. Many suppliers miss these out, causing undue hassle upon receipt of the product.

ST Format Rating: *"Easy to install." 86%*

Xtra-RAM ST^E $^1/_2$Mb Upgrade	**£ 24.99**
Xtra-RAM ST^E 2Mb Upgrade	**£ 89.99**
Xtra-RAM ST^E 4Mb Upgrade	**£159.99**

Plus **£2** Postage & Packing per order

Spare SIMM/SIP Adaptors **£1.25** Each
Plus **£1** Postage & Packing per order

Xtra-RAM +8

Marpet Developments are pleased to announce their latest new product, the Xtra-RAM +8. Available mid to late April, this 8Mb board upgrades an Atari ST^E; Mega ST^E or Mega ST to 12Mb! Specially designed and manufactured here in England, the Xtra-RAM +8 represents a considerable investment in the Atari marketplace. Each unit carries a full 12 months warranty and, with participating dealers only, is supplied under a ten day money back offer. For further information contact Marpet Developments today!

Unopopulated (0Mb)

ST^E	£109.99
Mega ST	£ 99.99
Mega ST^E	£149.99

Inc. VAT @ 17.5%
P&P £5 extra.

Populated 8Mb

ST^E	£399.99
Mega ST	£399.99
Mega ST^E	£399.99

Inc. VAT @ 17.5%
Free Courier Delivery

- ☐ Upgrade your 4Mb ST^E; Mega ST^E or Mega ST to 12Mb!
- ☐ Supports use of Atari TT style memory allocation.
- ☐ Supports extended memory allocation in most professional applications.
- ☐ Supplied with auto-booting configuration utility.
- ☐ Installs beneath shielding on all machine types.
- ☐ Solder free installation on most ST^{E}s; Mega ST and Mega ST^E models; fitting service available.
- ☐ All versions available unpopulated (use SIMMs).
- ☐ Requires TOS 2.06 ROMs - support for earlier ROMs available soon!
- ☐ No payment processed until day of dispatch! Mastercard and VISA.

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CORPORATE MEMBER

Meadowfield Farm, Fellbeck, Pateley Bridge HG3 5ET
Tel: +44 (0) 423 712600 Fax: +44 (0) 423 712601
All prices subject to change with or without notice. **E&OE.** All goods subject to availability.

MONEY BACK 10 DAY GUARANTEE

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CREDITS

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Contributors:

Mark Baines
Derryck Croker
Terry Freedman
William Hern
Graham McMaster
Günter Minnerup
Joe Connor
Jon Ellis
Nial Grimes
Paul Keller
Sam Marshall
R L Tufft

Contributions

The articles in *ST Applications* are written by users for users. Everyone reading this magazine will have something to contribute; even if you do not feel able to do a full-length review or article there is the Forum section for short hints, tips and questions. If you are interested in writing for *ST Applications* - regularly or irregularly - please write for a copy of our terms and conditions. We always do our best to reward quality work with appropriate remuneration.

Forget Maastricht -This One Will Cost Us More!

A recent EC directive looks set to increase the price of blank disks by 30%. The move is in response to complaints by a European trade body about the damage being caused to European disk manufacturers by the dumping of large quantities of cheap disks from the Far East. The directive has already been reviewed twice by the Commission but is as yet unimplemented.

In an attempt to overturn the directive, numerous representations have been made to Sir Leon Brittan, vice president of the Commission. It is highly likely that the directive will in fact be implemented in the next few months. The result will be minimal for the casual purchaser of blank disks but devastating to those who produce and distribute software. Public Domain libraries and producers of budget priced commercial software are unlikely to be in a position to absorb the price increases. Full price commercial software is unlikely to be affected to any great extent.

Whether or not the directive gets enforced community-wide depends on individual national governments and their willingness or otherwise, to comply with it. There is of course an outside chance that the British government may view such an action as the precursor to a trade war, something which would not be in the interests of British industry. All we can do now is to wait and see!

New From The ST Club

The ST Club have recently updated two of their newest products and added a third. PageAssistant is an accessory which provides on-line help for users of PageStream 2.2. The latest version is 2.0 and supports all the latest features in PageStream 2.2. It runs in a GEM window which can be re-sized and moved to suit. Help is available on all commands within PageStream and is referenced to the relevant pages in the PageStream manual. Topics are accessed via a point and select on-line index which allows quick access to all sections of the program. Hints and tips are given on such subjects as layout, Postscript printing, automatic attribute pick up, dialog box interaction etc. The program is resolution independent and supports 8, 16 and 24-bit graphic cards. PageAssistant comes with a 52-page printed manual and requires 145K of memory and of course PageStream 2.2. Some of the topics covered in the manual are colour separation, scaling text objects, applying tags, anchoring text around graphics, CMYK printouts, registrations and crop marks, macros, textual and graphic effects using macros, rotating objects, shifting baseline before and after paragraph spacing, temporary alignment guides, initial caps, flowing text around irregular graphics, resizing proportionally, master pages, resizing bitmap graphics, halftones, screen angle and frequency and H&J tiling. PageAssistant is available now for £29.95. Existing owners of previous versions can upgrade by returning their master disk along with the £7.95 upgrade fee.

CalAssistant has been updated to support v1.09N of Calamus. The interface and help files have been re-written as has the manual, which now runs to 40 pages. It gives on-line help for all the icons and menu functions. Text summaries can be sent directly to your printer and the program runs in a GEM window which can be re-sized and moved to suit. Topics covered in the illustrated manual now include Calamus frame types, Calamus frame modes, clipboards, working with text, text macros, master pages, layout tips, special design effects and layout tutorial. CalAssistant runs as an accessory from within Calamus or as a stand alone program. It will run in ST high resolution, TT medium or high resolutions and Moniterm monitors. CalAssistant is available from The ST Club for £19.95. Owners of previous versions can upgrade by returning their master disk along with the £5.95 upgrade fee.

CalAssistant SL is a new product which essentially offers the same as CalAssistant but for Calamus SL. It supports version 8/92 upwards and some of the procedures detailed may not work on older versions of Calamus SL. Once again it runs as an accessory from within Calamus SL, providing on-line help for all the icons and menu functions. The program runs in a GEM window which can be re-sized and moved to suit. Topics are accessed via a point and select on-line index which allows quick access to all sections of the program. Hints and tips are given on dynamic linking, reverse text, style sheets, mouse pointers, screen DPI, converting Calamus 1.09N double pages and much more. The interface is resolution independent and supports 8, 16 and 24 bit graphic cards. The illustrated manual runs to 52 pages and topics covered include clipboard modes and elements, picking up module type information, copy text block or ruler into clipboard, cut or copy text block to frame, correcting single to double master pages, adjusting ruler margins and indents, widow and orphan, screen frequencies, smoother raster at 300dpi, PKS Write hot keys, initial caps, style sheets and macros, creating master pages, inserting pages and copying layout, recalculating page numbers, auto leading and fixed leading, point or percentage value, merge and block, automatic attribute pick up and hyphenation. The program requires 145K and Calamus SL of course. Full reference is given to the Calamus SL manual and text summaries can be output to your printer. CalAssistant SL costs £29.95 and is available now.

If you wish to order any of the above or require further details contact The ST Club, 2 Broadway, Nottingham NG1 1PS. Tel: (0602) 410241; Fax: (0602) 241515.

Read_Me 1st

Subscription Expired? If you received this copy of *ST Applications* through the post, check the first line of your address label carefully: if it reads **STA28**, then your subscription has expired with this issue; if the information line reads "Complimentary Copy" you have been sent a free evaluation copy of *ST Applications*. Either way, you must take out a new subscription in order to receive further issues.

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Editor: Paul Glover
Sub-Editor: Nicky Wilson
Layout: David Smith
News Editor: Steve Delaney

Published by: The ST Club
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Canadian office: Tel: 519 539 0200; Fax: 519 539 9725.

Contact us for details of your nearest *ST Applications* stockist.

Disk Mags

These are bi-monthly compilations of the best PD software to come to our attention in the preceding couple of months - not magazines on disk. The next Disk Mag, DMG.34, will be dispatched a few days after this issue is sent out.

The 12 Megabyte ST!

Although everyone knows that the 68000 chip can address up to 16 Megabytes of RAM, the current architecture of the ST/STE range prevents you from addressing more than 4 Megabytes in total. Adding a 4 Megabyte upgrade to a 520 or 1040 does not give you 4.5 or 5 Megabytes - the Memory Management Unit (MMU) is only capable of addressing a maximum of 4 Megabytes, and so that's all you'll get.

Marpet Developments have just launched the Xtra-RAM 8+ memory upgrade board. It only works on an STE or a Mega ST, and requires TOS 2.06 to be fitted. In addition, an Auto folder program must be run to initialise the extra memory before it can be accessed. The board will be a simple plug-in job for some models but requires a certain amount of soldering on others. The unpopulated board will cost about £110 and the 8 Megabytes of RAM chips will cost about £400. It should be noted that this upgrade is not a replacement for existing memory but an addition to it. In other words, depending on your machine's configuration, you will end up with between 8.5 and 12 Megabytes of RAM in total! For further details contact Marpet Developments on 0423 712600.

Publishing War On Hold!

Trouble is brewing in the publishing industry once again over full price commercial software appearing on magazine cover disks. An uneasy truce was declared between EMAP, Future and Europress over a year ago when all three companies agreed not to release full price 16-bit software on cover disks. This has more or less been adhered to with regard to games but disregarded for application software. The latest move has been made by Europress' ST Action who plan to cover mount a full price Codemasters game. They have received no complaints from ELSPA (European Leisure Software Publishing Association), which seems to indicate that ELSPA would raise no objections to the ST being removed from the agreement. EMAP, Future and a number of software houses are concerned with this move as it is likely to kill off the ST market completely.

Cover mounting full price software may initially sound like a great idea to the average user but it's the long term consequences which cause concern. Each magazine tries to sign up better titles than the others and eventually all the best software finds its way onto the cover disks. Once this starts happening, the public stop buying full price software, buying more magazines instead. It then becomes uneconomic for software houses to produce new software as no-one is buying it! The end result is that the software market for the machine in question is effectively killed off. Needless to say, when the software runs out, so do the magazine sales, as everyone has moved to a new computer by that time, owing to the shortage of software available for their old machine!

Just as we went to press, and in view of the concern expressed by many within the industry, Europress announced that the full price game on the April issue of ST Action will be a one off. This is expected to head off the expected confrontation with the other publishers for the meantime at least.

NeoDesk Upgraded

Despite the availability of TOS 2.06 with its improved user interface, NeoDesk continues to be updated. The latest version is 3.03 and costs £40.81 or £4.95 as an upgrade to existing users. This latest version works under Multi-TOS and Multi-GEM (a German multi-tasking operating system) and is fully compatible with the Falcon. File copying has been speeded up further and files can be automatically sent to the clipboard if you run out of space during a copy/move operation. High density 1.44 Mb drives are fully supported as is 'dead sector' floppy disk formatting. A keyboard combination can be used to prevent icons from being deselected on completion of an operation (useful where more than one operation has to be performed on the files). Multiple copies of a floppy disk can now be made without re-reading the source disk. The control panel allows the new sound chips and CPU cache on the STE and TT to be turned on or off and has a VDI graphics option. Existing users of NeoDesk should contact Softline on 0480 496575 for details on upgrading.

News In Brief

Don't Go To Sandown!

The organisers of the All Formats Fairs would like to draw attention to a mixup in the location of the 24th April event. The wrong venue was shown on 1.5 million £1 off vouchers, tens of thousands of advance tickets and countless adverts and press releases! The event will be held at Novotel, Hammersmith, London NOT Sandown Park. The organisers would like to apologise for any inconvenience caused and ask that everyone pass the word around.

Which? Bows Out After 12 Years

The Which Computer? Show, scheduled for 20th-23rd April has been cancelled through lack of support. It was one of the best known business computing events and has been running since 1981. Although last year's event attracted around 53,000 visitors, interest from exhibitors has been dropping off over the past three years. The amount who booked space for this year's event was insufficient to make it worthwhile going ahead.

The Future For Business Computing?

Future Publishing have announced a new business computing show. It will be called Workgroup Computing and will take place from 3rd to 5th November at Olympia 2 in London.

Menzies And Smiths Drop ST Software

Within a week of each other, W H Smith and John Menzies announced that they are to discontinue stocking ST, C64, Spectrum and CPC software. This leaves them both carrying Amiga, PC and console software only.

ELSPA Continue The Fight

Following the granting of additional powers to ELSPA officials to seize illegal software on behalf of all affiliated members (see ST Applications issue 27), there have been three more raids. They were carried out at open air markets in Purfleet, Basildon and Kinross, netting almost 1,000 disks with a retail value of around £25,000.

Publisher 2 Bundled With 1st Word Plus

Electric Distribution are offering Timeworks Publisher 2 and 1st Word Plus bundled together for a combined price of £99 until 30th April. It offers a huge saving of £110 on the usual RRP. The promotion is only available direct from Electric Distribution. For further details call 0480 496666.

Low Cost Monitor From Silica

Silica Systems have recently launched the ViewTek VT12 greyscale monitor. It is fully compatible with the entire ST range and has built in stereo speakers. It operates in medium and low resolutions, displaying colours as shades of grey. A mono emulator is included with the monitor. The VT12 has a 12" screen and is available now for £69 from Silica Systems, 1-4 The Mews, Hatherley Road, Sidcup, Kent DA14 4DX; Tel:(081) 309 1111.

Dixons And Europress Back Live '93

Dixons and the Europress Group have emerged as official sponsors of the computer section of News International's consumer electronics show, Live '93 (see ST Applications issue 22). Dixons have taken over the entire floor space of the computer section and will sub let the space to exhibitors. They will be selling software at the event but the deal excludes them from selling hardware. Europress will be promoting the event through their countless magazines and conducting research on behalf of the organisers. They will have a considerable amount of stand space at the event and are to organise various events and seminars. Live '93 takes place from 16th to 20th September.

Video Editing On An ST

Derby-based Syntronix have recently launched the first professional video editing package for the ST. Editman Super comprises of software and hardware which allows your ST to control the entire video editing process without the need for time code equipment. Graphics can be imported from the ST and superimposed onto the video images. Numerous special effects are built into the software and can be added to your videos during editing. Editman Super is also compatible with 24-bit graphic cards. For further details contact Syntronix on 0332 298422.

Son Of ST Writer Elite

A worthy successor to ST Writer Elite has emerged in the form of MultiWriter. Existing versions of ST Writer Elite were found to be incompatible with Multi-TOS and the Falcon. Although MultiWriter is essentially a new product, it is fully compatible with ST Writer Elite and can load files in that format as well as those from Word Perfect, First Word/Plus and Timeworks WordWriter. It operates similarly to its predecessor but is now fully WYSIWYG and supports multiple font sizes, including large type for the visually impaired. The program operates in English, German or Spanish and all menus appear in the appropriate language once configured. MultiWriter costs $69.95 plus shipping. There is no UK distributor as we go to print. For further details contact Medical Designs Software, 21701 76th Avenue West, Suite 206, Edmonds, WA 98026, USA; Tel: 206 742 2032.

SyQuest Support 88MB Removable Cartridges

SyQuest SCSI hard drives which use removable 44 Megabyte cartridges have been available for some time now. The latest news from SyDOS, the people behind SyQuest, is that they have recently developed a new drive which can read and write to either 44 Megabyte or 88 Megabyte Winchester cartridges. Existing owners of SyDOS branded drives in The States are to be offered an upgrade path. There are currently no details about availability of these drives in the UK.

DynaCadd 2D Available

Ditek International have recently released DynaCadd 2D, a cut down version of DynaCadd aimed at those who do not require its big brother's three dimensional features. None of the 2D features has been sacrificed in this smaller version and Ditek claim that it has more features than any other 2D package on the market.

DynaCadd 2D features on-line help, context sensitive documentation and an intuitive user interface. Output is supported to the most common dot matrix, laser and Postscript printers as well as pen plotters. Alternatively you can send it to disk for outputting at a bureau. A utility which allows you to modify existing printer drivers or create your own is also included as is a full featured vector font designer/editor. A Falcon version will be released later this year. DynaCadd 2D has just gone on sale in The States for $269 but I have no information about UK availability yet. For further information contact Ditek International, 2800 John Street, Unit 15, Markham, Ontario, Canada, L3R 0E2. Tel: 416 479 1990; Fax: 416 479 1882.

Best Are Back

Best Electronics from California made another trip across for the 7th International 16-Bit Computer Show last month. They have added a number of new products to their line up and these can be supplied direct from The States. So, if you missed them at the show, all is not lost! New products include the following:

Cartmaster II cartridge control system	$199
Wizztronics TOS 2.06 upgrade	$85
Power Supplies for Mega STE and TT	$125
Stacy Keyboards	$90
Transparent Mouse	$34.95
Mega 2 PCB less all plug in chips	$125
Mega 4 PCB less all plug in chips	$150
Mega ST 2/4 keyboard extension cables	$12
Mega STE/TT keyboard cables	$10
Mega STE MC68882 maths co-processor	$100
Special PAL chip for above	$20
Mega STE 68000FN MPU	$18
Mega STE/TT 68901FN PLCC	$19.25

For further details contact *Best Electronics*, 2021 The Alameda, Suite 290, San Jose, CA 95126, USA. Tel: (408) 243 6950; Fax: (408) 243 8274.

Atari News

Multi-TOS is finally finished! Well, it's as finished as it's going to be before it gets released to the public. After a couple of years in development in which it started out its life as MiNT, Eric Smith's multi-tasking TOS has finally come of age and reached version 1.0. An installation program has been added to the distribution disk to allow users to configure the beast with relative ease. Atari have managed to squeeze it onto a single 1.44Mb floppy and it should be available as you read this. Contrary to previous information, Multi-TOS is entirely software based and the kernal is not built into ROM, although it is still expected that this will happen eventually.

Multi-TOS will be supplied free of charge with the Falcon but it is not yet clear as to the distribution status with regard to other machines. I would like to see it released as Public Domain as I feel it would been seen as a goodwill gesture by Atari towards their existing ST user base (who will hopefully help form their future Falcon user base). However, this is unlikely as Multi-TOS has been very expensive to develop. Atari originally licenced MiNT from Eric Smith and Allan Pratt took over its development, geared specifically towards the Falcon. When Pratt left, Smith was employed by Atari to complete the project and I doubt that employing him came cheap! Having said that, Atari's Bob Brodie is keen to see it freely distributed, so we'll just have to wait and see.

Contrary to previous reports that Multi-TOS would require a 1 Megabyte system to run, it appears that 2 Megabytes is the real minimum requirement and 4 is recommended. If it gets blown into ROM at a later date, it may just be usable on 1 Megabyte, but I have my doubts. There have been conflicting reports as to whether or not Multi-TOS would be made available for the "plain vanilla" ST and STE. It was Atari's intention towards the end of January that the system should be available for all 68000 Ataris. I have heard nothing since which contradicts this, but then again.....

Since Atari abandoned FSM GDOS in favour of Speedo GDOS, the entire Atari community have been awaiting its release with baited breath. The official word from The States is that it is "just about ready" and if they are uncharacteristically true to their word, it should be available as you read this. Speedo is also to be bundled with the Falcon once it's ready. It will be sold separately for non Falcon owners.

Another Atari product which is kindling some interest at the moment is Atari Works. It started its life as ST Sutra, then changed to Concierge and now they've changed the name again. It is an integrated database, spreadsheet, word processor (with spell checker and thesaurus) and communications package. Rumour has it that the comms package will be able to use the DSP to perform the basic functions of a conventional modem at speeds of up to 14,400 bps. This would also allow faxes to be sent and received.

Atari Works will run on any Atari 16-bit or 32-bit computer but I'm unsure as to the memory requirements. Once again, it will be bundled with the Falcon. There is a distinct possibility that it will also be bundled free with the STE in the future. The cost to those of us who don't get it free will be around $100, which will probably translate to £100 in the UK!

The Falcon is now officially on sale. It became available in half decent numbers from 1st March and although it could still be difficult to get one from your high street chain store, they are now available from major distributors and your local independent dealer will be able to order one for you. Contrary to previous reports, three models have been released. The base model at £599 has 1 Megabyte of memory and no hard drive. A 4 Megabyte model has been launched at £799 and at the top of the range is a 4 Megabyte machine with built-in 65 Megabyte hard drive at £999. The price increases have been blamed on the current state of the pound. Whilst this is a perfectly valid excuse, £100 does seem a trifle steep on the base model.

In an unexpected turn of events, Atari have decided to sell the Falcon direct to selected dealers as well as making it available through their normal network of distributors. Those who will be invited to buy direct are expected to be from specialist markets. It is unclear whether they will be offered machines at dealer price or distributor price. Were the Falcon to be offered to the educational market at distributor prices, this could easily break Acorn's stranglehold on that market.

When the Falcon was released, you could only use it with a television as the monitor adaptors didn't arrive in this country at the same time as the computers! Also, despite assurances from Atari that Multi-TOS would be included with all production models, it too was unavailable. Other packages such as the cut down Audio Fun Machine, Direct To Disk software, the Audio Manager, Atari Works and Speedo GDOS were also conspicuous by their absence. I sincerely hope that these (monitor adaptors excepted) will all be available free of charge to those who didn't receive them, especially considering the recent steep price increase.

Atari have once again confirmed that the Falcon will appear in a specially re-designed casing eventually. This was originally expected in March but failed to materialise. The latest word from The States (the only people who tell you anything these days!) is that it is coming but they are not prepared to say when. It remains unclear as to whether the re-designed case will in fact be re-designed specifically for the Falcon or if it will simply be a re-badged TT case.

Developer versions of the long awaited Jaguar games console started shipping in January in The States. The machine is not expected to be on general release much before Christmas. Specifications are deliberately being kept quiet as the machine is constantly being revised and improvements will continue to be made to it until nearer the release date.

One of the glossies recently suggested that Atari had stopped producing the STE. Not even Atari are capable of such a blunder, are they? I expect the vital piece of information missed from the article was that it is the 520 STE which has been axed. Now that RAM prices are so low, it would seem futile to continue producing machines fitted with half a megabyte of memory.

Atari UK have recently extended their promotional deal with Kellogs. The current deal which promotes the Lynx on Golden Crackles packets, has been extended to Toppers and Start. It involves collecting tokens for free badges and includes a competition with 1001 Lynxes up for grabs. The promotion is to last until April and Atari are expecting to be giving away around 600,000 enamel pin badges over the next few months.

The Atari world was shaken when Alvin Stumpf unexpectedly left his post as head of Atari Germany several months ago as a result of disagreements between him and senior management in the US. He had headed the German operation for about seven years and was widely regarded as being responsible for the phenomenal success of the ST in Germany. A bigger blow was dealt to Atari last month when Stumpf was appointed president of Commodore Germany!

Rather Than Break The Mould, Review Joins It!

EMAP have just published their latest ABC (Audit Bureau of Circulation) figures for the July-December 1992 period. Their only ST title, ST Review made its début with sales of 30,117 copies per month. Since its release ST Review has consistently had more pages per issue than its competitors and is currently the only one of the three to have two cover mounts per month. To say that the figures are disappointing is an understatement, as this was the magazine which looked set to break Future and Europress's stranglehold of the ST publishing market. However, we are still awaiting figures from the big two and it will be interesting to see if their sales have been affected by a new player in the market.

Late news just in. ST Review has just been sold to Europress Publications for an undisclosed sum. There are currently no plans to drop the title or merge it with Atari ST User. Europress have publicly stated that they plan no major change to the content of ST Review at present. (Remember ST World?) It is as yet unclear whether the aquisition has been made merely to eliminate a competitor or as a genuine business investment. (RIP ST World.)

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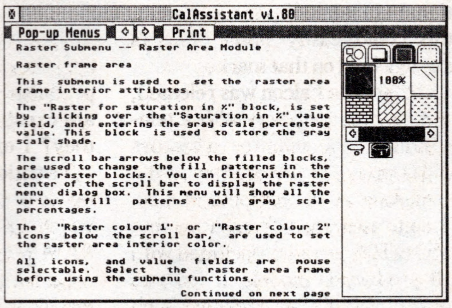

```
Raster Submenu -- Raster Area Module

Raster frame area

This  submenu is used to  set the  raster area
frame interior attributes.

The "Raster for saturation in %" block, is set
by  clicking over  the "Saturation in %" value
field, and  entering the gray scale percentage
value. This  block  is used  to store the gray
scale shade.

The scroll bar arrows below the filled blocks,
are used to change  the fill  patterns in  the
above raster blocks.  You can click within the
center of the scroll bar to display the raster
menu  dialog box.  This menu will show all the
various   fill    patterns    and    gray    scale
percentages.

The   "Raster colour 1"  or  "Raster colour 2"
icons  below  the scroll bar,  are used to set
the raster area interior color.

All  icons,  and  value   fields   are   mouse
selectable.  Select   the   raster   area frame
before using the submenu functions.

                          Continued on next page
```

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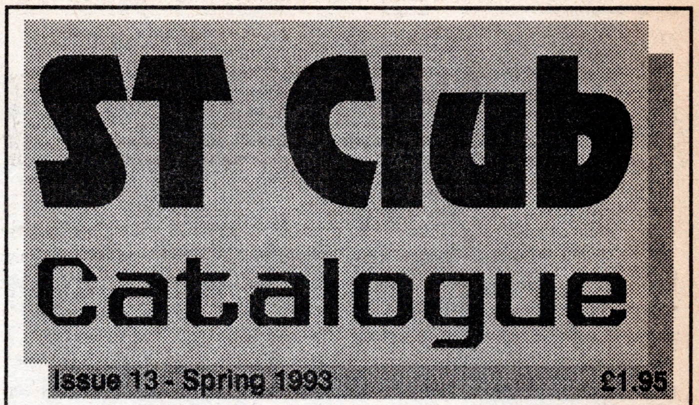

ST Club Catalogue

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see order form on page 57

Full A to Z listing of all of the programs in our latest catalogue is on disk ATZ.01
see order form for details

X-Debug

Advanced Debugger for Atari ST/TT computers

X-Debug is an advanced debugger for the Atari range of computers. It is both a low-level debugger, showing memory dumps and register contents, and also a medium-level debugger, understanding about certain high-level languages and allowing source display single-step, and local variable access, for example.

The best support is for Lattice C, as that is the only compiled language that outputs full debug information, but it also supports line-number debug (as created by HiSoft Basic and Devpac 3), and symbol-only debug (usable with virtually all ST compilers).

Crucial to the whole debugger is the X-Debug language. This is a simple yet powerful script type language that allows complex operations to be built up from a sequence of standard operations. It supports a full expression evaluator, aliases, and procedures with parameters. It is also an important factor in customising the user interface, allowing specific commands to be attached to particular keypresses.

X-Debug runs on STs and TTs with any monitor type. One megabyte of RAM is recommended, and TOS 1.4 or later avoids problems with larger programs. Written by Andy Pennell, the creater of MonST.

£24.95

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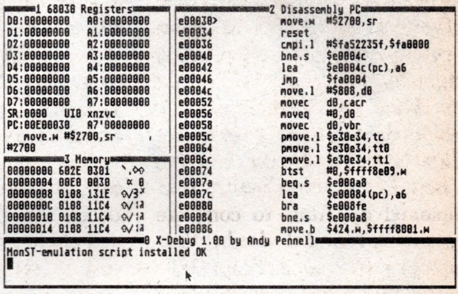
NG1 1PS

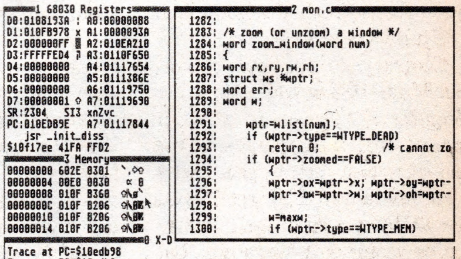


```
D0:00000000   A0:00000000
D1:00000000   A1:00000000
D2:00000000   A2:00000000
D3:00000000   A3:00000000
D4:00000000   A4:00000000
D5:00000000   A5:00000000
D6:00000000   A6:00000000
D7:00000000   A7:00000000
SR:0000   UI0 xnzvc
PC:00E00030   A7'00000000
   move.w #$2700,sr
#2700
```

```
00000000 602E 0301
00000004 00E0 0030
00000008 0108 131E
0000000C 0108 11C4
00000010 0108 11C4
00000014 0108 11C4
```

```
e00030>        move.w  #$2700,sr
e00034         reset
e00036         cmpi.l  #$fa52235f,$fa0000
e00040         bne.s   $e0004c
e00042         lea     $e0004c(pc),a6
e00046         jmp     $fa0004
e0004c         move.l  #$808,d0
e00052         movec   d0,cacr
e00056         moveq   #0,d0
e00058         movec   d0,vbr
e0005c         pmove.l $e30e34,tc
e00064         pmove.l $e30e34,tt0
e0006c         pmove.l $e30e34,tt1
e00074         btst    #0,$ffff8e09.w
e0007a         beq.s   $e000a8
e0007c         lea     $e00084(pc),a6
e00080         bra     $e008fe
e00084         bne.s   $e000a8
e00086         move.b  $424.w,$ffff8001.w
```

```
MonST-emulation script installed OK
```

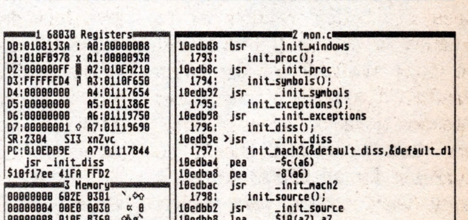


```
D0:0108193A : A0:000000B8
D1:010FB978 x A1:0000093A
D2:000000FF   A2:010EA210
D3:FFFFFED4   A3:0110F650
D4:00000000   A4:01117654
D5:00000000   A5:0111386E
D6:00000000   A6:01119750
D7:00000001   A7:01119690
SR:2304   SI3 xnZvc
PC:010EDB9E   A7'01117844
   jsr _init_diss
$10f17ee 41FA FFD2
```

```
00000000 602E 0301
00000004 00E0 0030
00000008 010F B360
0000000C 010F B206
00000010 010F B206
00000014 010F B206
```

```
  1282:
  1283: /* zoom (or unzoom) a window */
  1284: word zoom_window(word num)
  1285: {
  1286: word rx,ry,rw,rh;
  1287: struct ws *wptr;
  1288: word err;
  1289: word w;
  1290:
  1291:     wptr=wlist[num];
  1292:     if (wptr->type==WTYPE_DEAD)
  1293:         return 0;           /* cannot zo
  1294:     if (wptr->zoomed==FALSE)
  1295:         {
  1296:         wptr->ox=wptr->x; wptr->oy=wptr-
  1297:         wptr->ow=wptr->w; wptr->oh=wptr-
  1298:
  1299:         w=maxw;
  1300:         if (wptr->type==WTYPE_MEM)
```

```
Trace at PC=$10edb98
Trace at PC=$10edb9e
```



```
D0:0108193A : A0:000000B8
D1:010FB978 x A1:0000093A
D2:000000FF   A2:010EA210
D3:FFFFFED4   A3:0110F650
D4:00000000   A4:01117654
D5:00000000   A5:0111386E
D6:00000000   A6:01119750
D7:00000001   A7:01119690
SR:2304   SI3 xnZvc
PC:010EDB9E   A7'01117844
   jsr _init_diss
$10f17ee 41FA FFD2
```

```
00000000 602E 0301
00000004 00E0 0030
00000008 010F B360
0000000C 010F B206
00000010 010F B206
00000014 010F B206
```

```
10edb88  bsr     _init_windows
  1793:    init_proc();
10edb8c  jsr     _init_proc
  1794:    init_symbols();
10edb92  jsr     _init_symbols
  1795:    init_exceptions();
10edb98  jsr     _init_exceptions
  1796:    init_diss();
10edb9e >jsr     _init_diss
  1797:    init_mach2(&default_diss,&default_dl
10edba4  pea     -$c(a6)
10edba8  pea     -8(a6)
10edbac  jsr     _init_mach2
  1798:    init_source();
10edbb2  jsr     _init_source
10edbb8  lea     $10(a7),a7
  1799:
  1800:    res=open_window(1,0,0,30,14,NULL,WTY
10edbbc  moveq   #1,d0
```

```
0003.pi3
window mode 2 mixed
```

Action Stepped Up Against ABCO

Since ST Applications exposed the ABCO Computer Consultants' fiasco in issue 27, there have been a few developments Stateside. Genie have banned all future issues of ST Report from appearing on its service and they closed down the ST Report bulletin board on 1st February. A debate is currently ensuing over the main on-line networks about the decision to ban Mariano and his associates from Genie. Some argue that it violates free speech, others say that it was due to his endless criticism of Atari Corporation but many claim that it was due to the amount of customer complaints with regard to unacceptable business practices, along with abuses of the privileges afforded to him by Genie. Mariano himself has been 'foaming at the mouth' and insists in the 30th January issue of Z*NET that ST Report will continue to be available to its readers and that "this latest attempt at blatant censorship does nothing but strengthen our resolve with great vigor".

You may remember that the statement from Atari Corporation's legal department concerning Ralph F. Mariano and ABCO Computer Consultants (as re-printed in issue 27) came about as a result of Don Harris who spent almost $4,000 on two TTs, a hard drive and a monitor. The latest news is that Harris has had enough and has filed a law suit against Mariano and ABCO Computer Consultants for Breach Of Contract and Fraud, alleging that Mariano never intended to deliver the equipment paid for because he is (and always has been) unable to supply the goods. The outcome should make interesting reading.

Legal Precedent Against Software 'Clones'

A legal precedent has been established as a result of a recent court case involving two pharmaceutical companies. It revolved around the fact that one company was alleged to have infringed the other's copyright by producing software which was a clone of the first's. The court ruling involved the look and feel of the software and the fact that significant features had been closely imitated. Previous judgements concentrated on whether or not the source code of two products was similar enough to merit a case for copyright infringement. They were even prepared to consider similarities in screen displays in reaching their decisions. However, this is the first case which was based on unique features of one piece of software being 'cloned' for use in another similar piece of software, without any of the source code or screen displays being 'copied'.

The most significant effect of this is with regard to games software where it is commonplace for numerous clones to appear, which mimic the success of a single innovative product. However, the effect on application software cannot be discounted either as it was this type of software on which the ruling was based.

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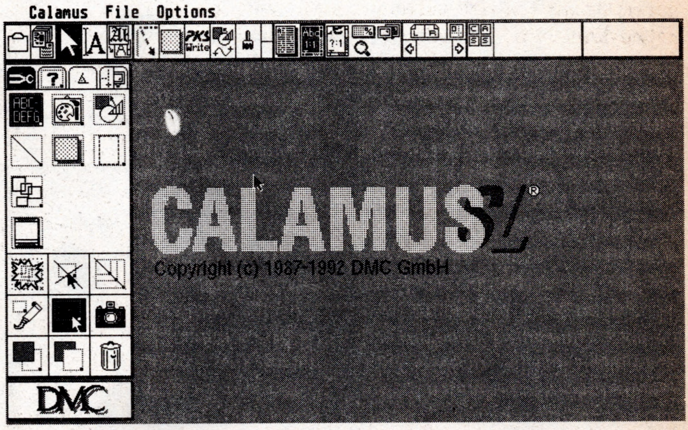
Calamus SL

At one time considered the very essence of power, Calamus 1.09 *is now beginning to seriously show its age. The solution, or so DMC would have us believe, is the uniquely powerful* Calamus SL, *boasting full colour separation and unrivalled accuracy amongst its many talents. And with the release of its little brother* Calamus S, *at just £145, it looks as if mere mortals may finally be able to have a true taste of* SL *power.*
Nial Grimes is the man with the inky fingers...



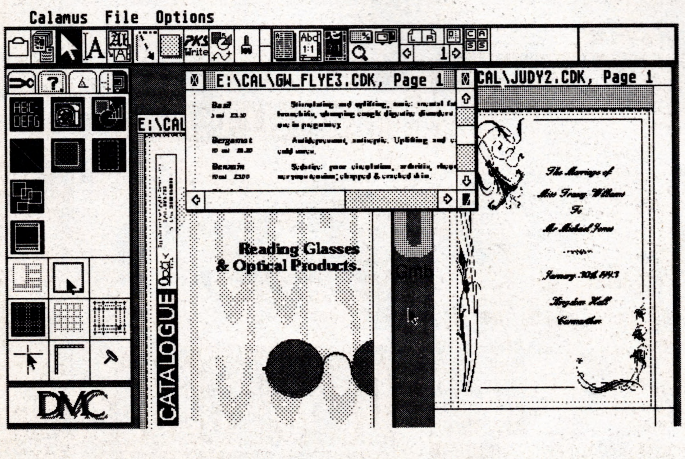
Calamus SL - panacea or plague?
With a level of professionalism usually only seen on the Macintosh and a feature list as long as your arm, SL is the best thing to hit the ST scene for a long time (installation aside!).

The *SL* package is suitably impressive for the price, with a huge box housing the 500-page plus manual and three double-sided disks. No installation program is supplied, but if you are to believe the notes the procedure should be a piece of cake: 'simply drag the contents of all three master disks to a folder on your hard disk and run CALAMUS.PRG' - wonderful. But oh dear, oh dear, oh dear! As it turns out, the contents of two of the disks are compressed using a German LZH archiver. More of a problem than it seems because not only are all prompts in German, but the utility refuses point blank to accept a destination path!

The solution, from painstaking experience, is to copy the LHARC to the destination path and quote the archive as the source. Each archive also contains more than 112 files, so failure to use the -X -R -A switches will bomb the machine if you unpack to a root directory - how thoughtful! Not a word of this is mentioned in the manual and when you've just coughed up over five hundred quid for a desktop publisher you expect more. Are Halco really skimping one disk - nice and red though they are - on a package that costs at least twice as much as the machine it's running on? Grumble over - let's get on with the review...

The manual, installation section aside, is very good. It goes into far more detail on desktop publishing itself than the pathetic specimen supplied with *1.09* and is a good read. It also does a good job explaining the basics of process colour and contains a nice simple tutorial if you're a walk-through type of person. Rather than using page numbers and a traditional index, the whole thing is split up into sections, no doubt using *SL*'s superb indexing. This approach has been designed to allow you to add sections for your extra modules without destroying the numbering system.

Thirteen fonts are supplied as standard and, providing you've maintained your serial number, all your old fonts should load without problems. Although the program itself is fully translated into English, the filenames, on-disk release notes, colour lists and demo documents are all still in German. This leads to some rather unusual extensions - CDT for printer drivers, CFT for colour lists, and so on - but you soon get used to it and a few minutes with a German dictionary reveals all.



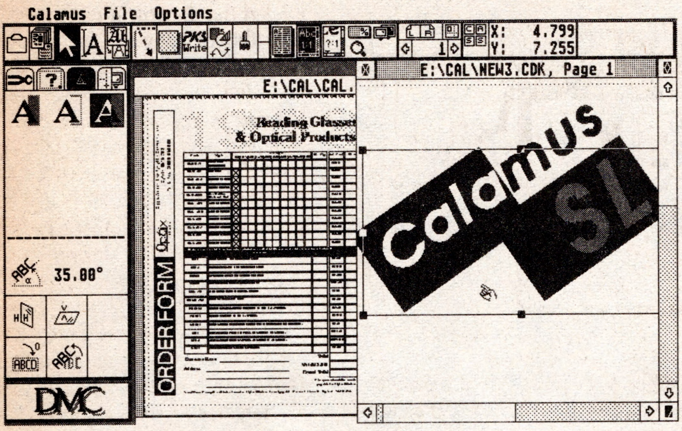
Multi-document editing and a universal clipboard (capable of storing as many frames as you can throw at it) are just two features that put SL in the major DTP league. It remains to be seen whether MultiTOS will push the seven document limit up further still.

An hour or so later, the nasty installation behind me, I was up and running. From here on in things got better - a lot better in fact!

Modules

No doubt *SL*'s biggest distinguishing feature is its infinite expandability through the use of modules. *Quark* on the Mac goes some way down this path, but not nearly as far as *SL* - when you initially boot up, a clipboard is the only resident icon! All other functions must be loaded from disk through the External Modules dialogue and will appear in the top row as you do so. This process needn't be repeated each time you run - the settings can be saved and all will be loaded automatically. While on the topic, default saving has been boosted to include over 200 user definable options. This means a personally customised *SL* is is only a mouse click away.

As standard you get the page, frame, line, raster and text modules, which roughly equate to the top line used by *Calamus 1.09*. New additions include *PKSWrite*, a basic word processor; the document converter for compatibility with *1.09*; *Focoltone*, for instant selection of spot colours; and finally *Colour-Grey* which reduces the screen display to greyscale


Calamus File Options
X: 4.799
Y: 7.255
PKS Write
E:\CAL\CAL.
E:\CAL\NEW3.CDK, Page 1
35.00°
Reading Glasses & Optical Products
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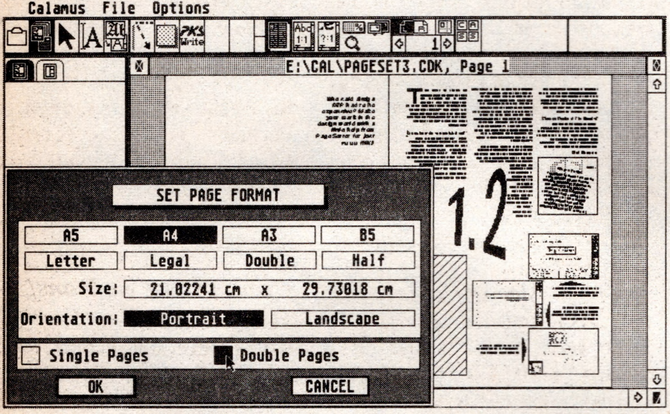
DMC

Frame grouping has been speeded up drastically and it's now possible to rotate dozens of objects simultaneously. However, fans of 1.09's touch-to-group method may find SL's Timeworks 2 style approach annoying.


Calamus File Options
PKS Write
E:\CAL\PAGESET3.CDK, Page 1
SET PAGE FORMAT
A5
A4
A3
B5
Letter
Legal
Double
Half
Landscape
Single Pages
OK
CANCEL
1.2

Size: 21.02241 cm x 29.73018 cm
Orientation: Portrait
☐ Single Pages ■ Double Pages

One of SL's more practical enhancements is proper support for double pages. Editing is now possible at any magnification and Calamus will automatically compensate for the gutter area.

(ideal for the many thousands of you (sic) who will be using a trendy 256-colour display board). Most interesting are the *Colour Separation* and *Raster* modules. These allow you to adjust the angle, colour and size of the raster patterns used in printing. You can, of course, still choose to print in shades of grey should you want to do so.

Most modules are similar in style to those used by *1.09*, although obviously colour selection has been added. The text module has been split into two halves, one dealing more with text rulers - centring, justification and so on - and the other more with the style of the text - point size, colour, underline intensity, etc. *Calamus*'s text 'macro' system has been kept for compatibility purposes, but is now complemented by a 'style' section. This gives a true text tagging at last and is similar to the system used by *Timeworks*, for want of a better example. An enormous dialogue rules style parameters, and every aspect of the text, from the colour to whether the underline will appear in front of or behind the text, can be adjusted with ease. Unfortunately, all localised text formatting - shadowed, skewed, etc. - is lost when a style is added to a block of text. Numerous other additions to the text module include a reference marker and the ability to anchor a picture to a piece of text - both invaluable for book publishing.

Write On!

PKS Write replaces the built-in text editor and is far more powerful than its 'back to basics' predecessor. You now get full spell checking, block manipulation, search/replace facilities and one or two other niceties. *PKS* also interfaces with the text module to allow text styling from within the editor window.

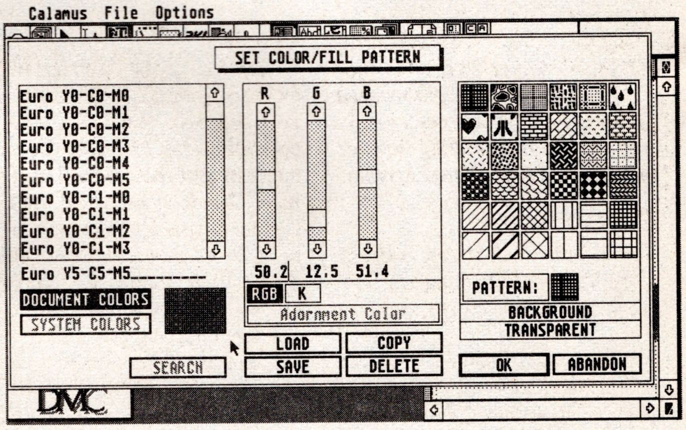
Most frames - including groups - can now be rotated to any angle. The exception is raster graphic frames, which are limited to steps of 90 degrees - a pretty serious limitation and one which doesn't affect *PageStream 2*. The way a frame reacts with other objects on the page can also be set and the colours will automatically be mixed if necessary. As far as I know, *Ventura* on the PC is the only other package to offer a similarly powerful feature.

To allow the output of oversized pages, a new frame type has been added - the tiling frame. *SL* can be instructed to calculate these tiling frames or you can define them yourself. Yet another feature that puts *SL* in the major league is its 'overlay' facilities - this automatically compensates for the print area lost in the 'gutter' and is too often forgotten, even by some supposedly top-end DTP packages.

1.09's over-enthusiastic snap-to-guides has been tamed and can be fully adjusted via the Columns dialogue. A new kid on the block is the 'magnetic' guide which forces all objects to snap to currently selected frames - just the job for tricky alignment.

The easiest way to describe colour usage is to say that everywhere you would expect to find a fill/raster editor in *1.09*, you will now find a colour editor. A huge dialogue governs colour mixing and from this point lists of predefined shades can be loaded from disk. Once again all of the example colours go under their German names.

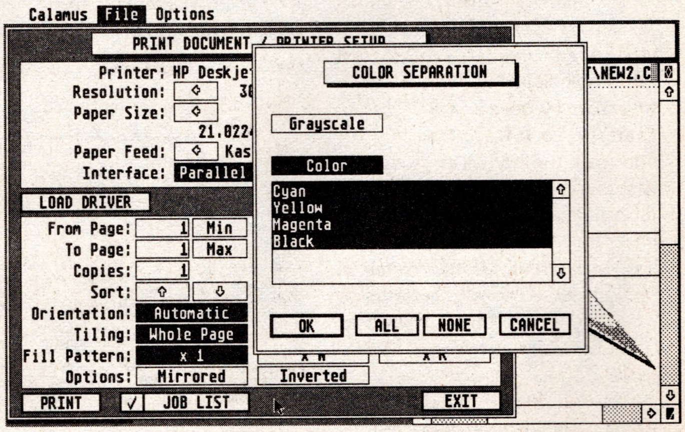
To enhance its modular nature even further, *SL* uses import/export drivers to communicate with the outside world. Drivers are supplied for dozens of popular image formats and, unlike certain packages I could care to mention, they all load almost any variation of the format thrown at them (X-IMG, TIFF-R et al). On the text side, four import drivers are inclu-


Calamus File Options
SET COLOR/FILL PATTERN
R
G
B
DOCUMENT COLORS
SYSTEM COLORS
RGB
K
PATTERN:
BACKGROUND
TRANSPARENT
LOAD
COPY
SAVE
DELETE
SEARCH
OK
ABANDON
DMC

Euro Y0-C0-M0
Euro Y0-C0-M1
Euro Y0-C0-M2
Euro Y0-C0-M3
Euro Y0-C0-M4
Euro Y0-C0-M5
Euro Y0-C1-M0
Euro Y0-C1-M1
Euro Y0-C1-M2
Euro Y0-C1-M3
Euro Y5-C5-M5

R: 50.2 G: 12.5 B: 51.4
Adornment Color

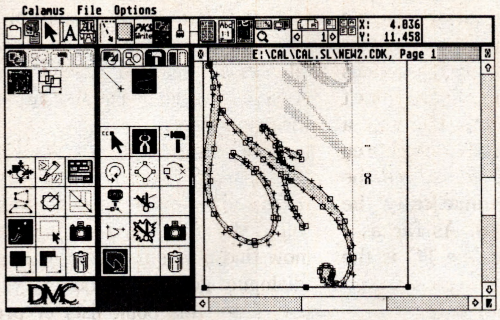
All colours are mixed from this point. Lists containing commonly used shades can be loaded from disk on bootup, so play your cards right with the demo files and you needn't get your hands dirty at all!


Calamus File Options
PRINT DOCUMENT / PRINTER SETUP
COLOR SEPARATION
Grayscale
Color
OK
ALL
NONE
CANCEL
LOAD DRIVER
PRINT
JOB LIST
EXIT
\NEW2.C

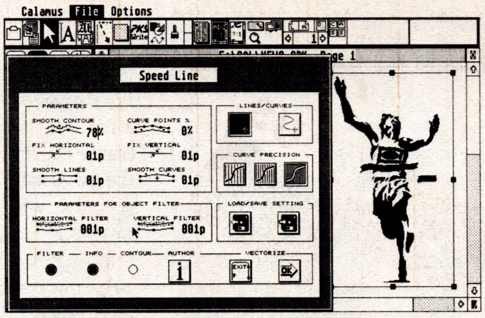
Printer: HP Deskje
Resolution: 30
Paper Size: 21.022
Paper Feed: Kas
Interface: Parallel
From Page: 1 Min
To Page: 1 Max
Copies: 1
Orientation: Automatic
Tiling: Whole Page
Fill Pattern: x 1
Options: Mirrored Inverted

Cyan
Yellow
Magenta
Black

Colour separation is selectable from the print dialogue itself, as is the Job Manager module. Thanks to the latter it's possible to use any font, public domain or commercial, without the fear of upsetting your favourite Calamus print bureau!



Definitely one of the more useful modules, Vector allows the editing and manipulation of outline graphics from within SL. However, this, more than any other part of the package, highlights the speed deficiencies of the ST's 68000.



SMOOTH CONTOUR 78%
CURVE POINTS % 0%
FIX HORIZONTAL 01p
FIX VERTICAL 01p
SMOOTH LINES 01p
SMOOTH CURVES 01p
HORIZONTAL FILTER 001p
VERTICAL FILTER 001p

The simple dialogue belies the power of SL's superb auto-tracer, Speedline. Just select a raster-graphic frame, adjust the options and leave the rest to Calamus. The results are generally up to the hallowed Avant Vector standard.

ded for Word Plus, ASCII, Calamus Text and Word Perfect text. It's a little bit disappointing to find no support for any of the popular ST document processors, but I suppose most packages have some means of saving in Word Plus format, and there's always ASCII as a last resort.

Printer support is as wonderful as ever with over 28 drivers supplied as standard and a redesigned driver generator included on disk. Just the job for creating new, or tweaking existing, printer drivers.

Pretty Pictures

Also included with the *SL* package is the 'Paint and Drawing' set. This comprises three modules, the most useful of which is undoubtedly Vector, which allows the editing and manipulation of outline graphics from within *Calamus* itself. Usage couldn't be easier and is just a case of selecting the required frame and clicking the Vector icon. The frame then becomes your work area and operation is very similar to *Outline Art*, minus the special effects of course. It's a little bit tricky to use, but I'm sure this would improve with a faster machine (where's my Falcon, Atari?!). To complement *Vector*, you can also opt for *Speedline* which adds auto-tracing to *SL*'s many abilities. Results are generally very good, almost up to the standard of *Avant Vector* in fact, but they can only be saved in a new *SL*-only format known as CVD or *Calamus Vector Document*.

Finally, *Brush* rounds off the line-up. The idea is to allow editing of bitmap graphics, be they mono, greyscale or colour, without leaving *SL*. In actual fact all you get is a simple pencil drawing tool - albeit in a number of sizes - and colour selector. It might be OK for removing a small amount of noise, but the chances are this would have already been sorted out at the scanning stage. The idea is a good one, but there are just too few features to make it worth using.

You Want More?

In addition to the fourteen or so modules you get free with the package, several are available as optional extras. Probably the most interesting of these is the *DataFormer*. This long promised module lets *SL* output its pages in a huge number of formats, including PostScript. Two modules are supplied, one to deal with raster graphics and the other handling vector output. Dozens of formats are available for use including IFF, TIFF, X-IMG, GEM Metafile, CVG & EPS, ensuring compatibility with just about every system on the market. Usage is simply a case of clicking on the module name and selecting options from a straightforward dialogue box. Output can be the whole page or the current frame only and at any resolution and number of colours supported by the image format in question. As a testament to its compatibility, *SL* pages or output from the *Dataformer* can be imported into *1.09* as vector graphics. I haven't been able to test the PostScript output as yet, but judging from the other formats there shouldn't be too many problems.

The *Job Manager* is a module that should feature high on corporate users' wish lists, and this is reflected in the £370 price tag. It solves two problems bureaux and print firms are likely to come across. Firstly, print queueing is now possible from a new button which appears in the print dialogue - just select the files and let *SL* beaver away imagesetting them. Secondly the module allows fonts which are not licensed for use with your copy of *Calamus* to be loaded and printed. This means that you can legally supply your licensed font to a print bureau, who now has no need to own every *Calamus* font ever produced. The idea is that once these fonts are loaded the document can't be edited, although this doesn't seem to be a problem in the version I have!

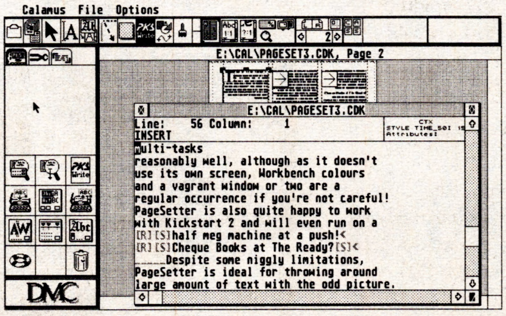
Collation is the problem that the *Mount* module aims to tackle and it does a very good job. The basic function of the module is to automatically calculate which pages are to appear alongside one another and print them accordingly. Naturally, two pages must be able to fit on the sheet of paper, so the only practical application for those of us with an A4 printer is A5 (or smaller) booklets. The module has its own icon in one of the 'Page' panels and also puts in an appearance in the print dialogue, alongside the *Job Manager*. The price, at an expected £250, is way too much for a feature that should really be a part of the package in the first place.

Modules currently unavailable in this country include *'Mask'*, for some snazzy special effects. and the 24-bit version of *Outline Art* - version 2, would you believe? - which is also to become available in the needed CXM format. I haven't been able to try either, unfortunately.

Icons - I See No Icons!

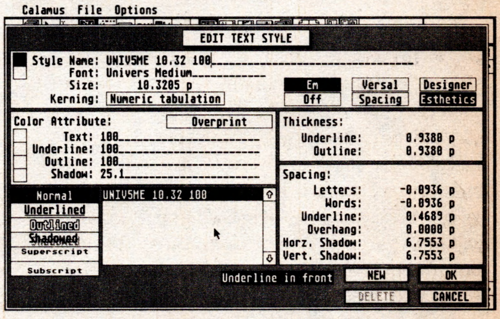
In appearance *SL* is very similar to its predecessor and let's get one thing perfectly straight from the start - this interface means business! The original *Calamus* was daunting enough with its 25 or so panels, but even the standard *SL* configuration contains over 50! Despite the increase though, you'll be surprised how quickly you get used to the new layout. Love it or hate it, the design approach is still rigidly frame-based.

DMC have tried their very best to help out in the ease of use department by allowing you to copy icon panels and keep as many on screen as you like. The only problem is that these always



```
Line:     56 Column:     1
INSERT
multi-tasks
reasonably well, although as it doesn't
use its own screen, Workbench colours
and a vagrant window or two are a
regular occurrence if you're not careful!
PageSetter is also quite happy to work
with Kickstart 2 and will even run on a
[R][S]half meg machine at a push!<
[R][S]Cheque Books at The Ready?[S]<
      Despite some niggly limitations,
PageSetter is ideal for throwing around
large amount of text with the odd picture.
```

Word processor? - Not quite, but PKS-Write is ten times the man its predecessor could ever claim to be. Text styling is now possible from within the window itself and the block manipulation and search/replace features are superb.



Style Name: UNIV5ME 10.32 100
Font: Univers Medium
Size: 10.3205 p
Kerning: Numeric tabulation

Color Attribute:
Text: 100
Underline: 100
Outline: 100
Shadow: 25.1

UNIV5ME 10.32 100

Thickness:
Underline: 0.9380 p
Outline: 0.9380 p

Spacing:
Letters: -0.0936 p
Words: -0.0936 p
Underline: 0.4689 p
Overhang: 0.0000 p
Horz. Shadow: 6.7553 p
Vert. Shadow: 6.7553 p

True text styling is now fully supported, and control is via this monster dialogue. All inital parameters are taken from the current text style, so it's not nearly as daunting as it seems!

appear behind the document window, and given the choice I think most people would rather see more of the page than 'waste' screen area on icons! Perhaps when we're all using Falcon 040s with 2560x1920 A3 monitors we'll have room to make use of the facility. Using a virtual screen driver (such as MonSTEr) you can have two panels, one for general use and another containing your favourite module, which can be handy.

Having said that - the interface is at least consistent. You don't find two different dialogue boxes accomplishing the same task. All modules, drivers and fonts are loaded through a common object selector and a similar uniformity is shown through the whole package.

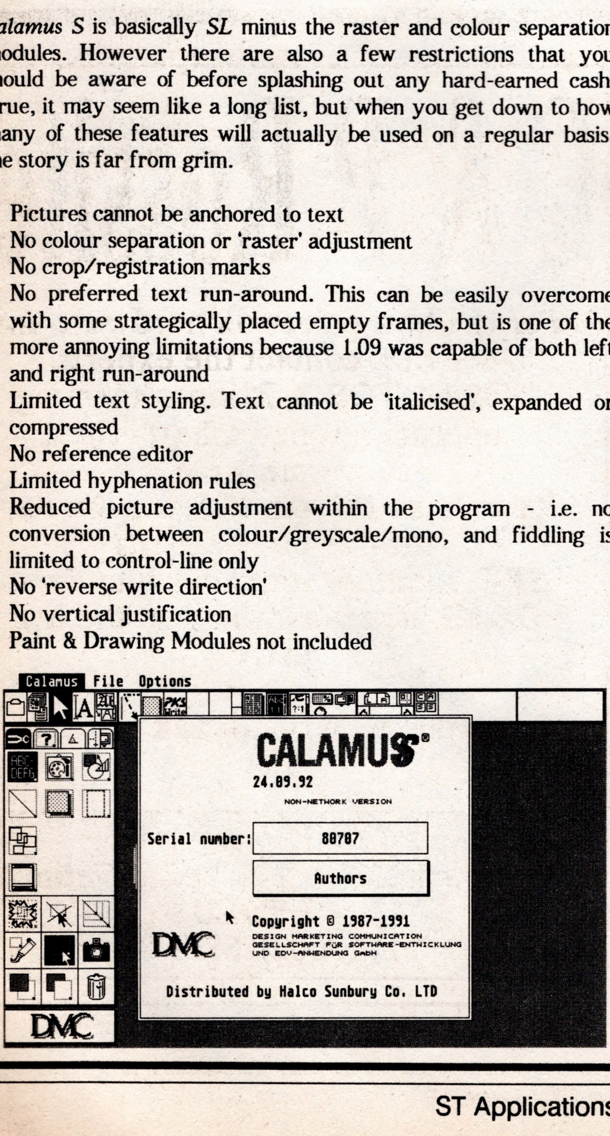
Perhaps one of the most important extras provided by *SL* is its support for up to seven documents in memory at once. This works extremely well, although the amount of times I've found myself shutting the existing document before opening another over the last month or so doesn't bear thinking about! Each document can use its own independent set of fonts and even a typeface that is in memory must be loaded again to make it appear for use with another document. It should be noted however that only one copy of every font is ever held in RAM.

If it's accuracy you're after, then look no further! *SL* is accurate to 1/10,000th of a centimetre as standard and works internally to ten decimal places to reduce round-off errors. This can present some problems when adjusting frames. Remembering two decimal places in *1.09* didn't present too much trouble, but getting your head around five is a different matter! This accuracy can be reduced if you really must, but that kind of defeats the purpose wouldn't you say? Magnification is theoretically up to an astounding 999999.999% although the practical limit is a few thousand percent less owing to to SL's internal 32000x32000 pixel limit on vector objects. View sizes are infinitely adjustable and several user definable settings are available through the magnification dialogue.

Calamus S - Her True Story!

Calamus S is basically *SL* minus the raster and colour separation modules. However there are also a few restrictions that you should be aware of before splashing out any hard-earned cash. True, it may seem like a long list, but when you get down to how many of these features will actually be used on a regular basis, the story is far from grim.

- Pictures cannot be anchored to text
- No colour separation or 'raster' adjustment
- No crop/registration marks
- No preferred text run-around. This can be easily overcome with some strategically placed empty frames, but is one of the more annoying limitations because 1.09 was capable of both left and right run-around
- Limited text styling. Text cannot be 'italicised', expanded or compressed
- No reference editor
- Limited hyphenation rules
- Reduced picture adjustment within the program - i.e. no conversion between colour/greyscale/mono, and fiddling is limited to control-line only
- No 'reverse write direction'
- No vertical justification
- Paint & Drawing Modules not included



CALAMUS®
24.09.92
NON-NETWORK VERSION
Serial number: 80707
Authors
Copyright © 1987-1991
DESIGN MARKETING COMMUNICATION
GESELLSCHAFT FÜR SOFTWARE-ENTWICKLUNG
UND EDV-ANWENDUNG GmbH
DMC
Distributed by Halco Sunbury Co. LTD

As you can imagine, this sort of flexibility demands a certain amount of memory and you'll definitely find yourself cursing with under 4MB of RAM. Any less means either loading and unloading modules constantly, or your hard disk will be working overtime with virtual-memory swap files.

In Action

So now you know what it's supposed to do - how does it perform? Well, no doubt you've heard the rumours that '*SL* is unusable on an ST' and I'm pleased to report that this is total boloney! The new *Calamus* is every bit as quick as *1.09* in most respects and even a little faster in places! For example, a frame-packed order-form I produce for a local company which used to take at least three minutes to group and ungroup, is now exploded in the twinkling of an icon! The improved redrawing method - i.e. only the sections of the screen that are obscured - also helps out in the speed stakes.

Stability - another much criticised aspect of early releases - is also superb. I was unfortunate enough to have a play with an early German demo version of *SL* and if it survived five minutes without a crash you considered yourself lucky! In over a month, the new *SL* has only fallen over once, and while I can't remember exactly what I was doing at the time, you can be sure it was well beyond the normal call of duty. Compatibility is also problem-free; the document converter has loaded everything I've thrown at it so far and tiny descrepancies in some alignment is the only evidence that they've ever been near *1.09*.

The new 'magnetic frames' are just inspirational and alignment is now divinely easy. Improvements to the interface include the ability to size frames while in text mode and cycle selected frames by just clicking on an area - beats copying to the clipboard just to get at a background frame. Key bindings (shortcuts) are also completely adjustable to suit your way of working.

Virtual memory is another feature that's bound to stir up some interest. Basically all that's required in setting up is to tell *Calamus* where it can store its 'swap file' and then just carry on as normal. In action the process is either slow or very slow, depending on the speed of your hard disk, but given the choice of running out of memory or losing speed I suppose the flexibility is worth the pedestrian pace. Unlike most Mac packages *SL* loads all illustrations into memory, so the virtual memory feature is a very valuable one.

Print speed is as blistering as ever although the quality has changed. It's not that it's any worse than *1.09*, but raster patterns are different - after all, each grey is not now a tint, it's a colour. One result is that fades produced with *Outline Art* are smoother, which can't be a bad thing. A new feature for *SL* is screen rasterisation, which means that one dot on the screen represents one dot on the printed page (magnification allowing). With this feature enabled, the printer resolution setting will alter the quality of the screen display so you know exactly what you are going to get. While *S* also contains this feature, it seems to get resolutions confused, so it's best to steer clear. On selecting the print button you have the option to print all frames or only those currently visible. Colour representation on screen is suprisingly good in TT medium resolution (emulated with MonSTEr I hasten to add!), and dithering achieves a remarkable number of psuedo-colours.

In fact the only part of *SL* that really encourages mutiny is the new frame grouping method. Whereas *1.09* grouped any objects that touched the group frame, *SL* makes you surround the entire frame before it becomes part of the group. It's only a small change but you've no idea how annoying it can be, especially when the the original approach was more flexible. Incidentally, the manual documents the *1.09* method! This minor niggle aside, the package is dripping with classy touches, such as the dialogue boxes which can be centred or drawn at the mouse position and buttons which default to the last selected option - magic!

I wish I could go further into the intricacies of this truly monumental package, but you could easily fill the whole magazine and still have plenty more to say! Even after a month of use I can safely say I've only just scratched the surface and I hope the few good and bad points I've picked out will help you in deciding whether to take the plunge.

Worth The Wonga?

Calamus SL is the epitome of power and as far as I'm concerned is the best piece of software to ever hit the ST. Having said that, it's still way too expensive for the average punter and the interface is daunting to say the least. I'm sure it can do everything that *Quark* can manage and plenty more, but on a hardware platform that, let's face it, nobody has any faith in.

S is an altogether more attractive proposition - at £145 you are getting a package that is simply the best mono desktop publisher available. It's crippled just enough to avoid anyone using it for top-end professional work, but apart from that you're getting *SL* without the colour separation. I would like to see raster adjustment as part of *S*, but overall you can't complain at the price. Incidentally, it's entirely possible to design colour documents with *S* for separation with *SL* - the document format is completely interchangeable.

In terms of power, a hard disk and 4MB of RAM are essential - don't even think about using *SL* on less. Providing you don't push it too hard, speed isn't much of a problem. I'm sure an accelerator will help out, but if you could cope with *1.09*, *SL* is fine.

No doubt comparisons will be drawn with *PageStream 2*, but you have to remember that the packages are aimed at different levels. As much as I enjoy using version 2.2 of *PageStream* I couldn't imagine using it to produce some of the work that *SL* churns out with ease. *SL* is also one of the first packages to conjure up the professional atmosphere of a Mac desktop publisher with its wonderful icons and plethora of finishing touches. (Text hanging out the bottom of dialogue buttons does not, SoftLogik!)

I am totally satisfied with my *Calamus* purchase. It does everything I want it to do and replaces the aging *Calamus 1.09* nicely. Perhaps the interface is over-complicated - I don't find it a problem, but the uninitiated might. My only serious criticisms are the installation and frame grouping, and the latter is more personal taste than anything. Overall, if you're looking for power with the price, *SL* will suit you down to the ground. I have just one thing to say - it had better run on my Falcon DMC!

Summary

Points For:

- ✓ Immensely powerful
- ✓ True text tagging system
- ✓ Modular approach makes for unlimited expandability
- ✓ Possibly the most accurate desktop publisher on earth
- ✓ Innovative in the extreme

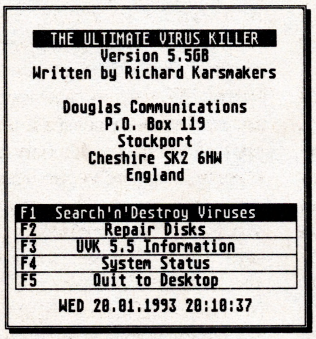
Points Against:

- ✘ Awful, undocumented installation procedure
- ✘ Complex user interface (but tell me you don't love it!)
- ✘ Raster graphic rotation only in steps of 90 degrees

Product:...... Calamus SL
Version:..........24-9-92
Price:..............£587.50
Supplier:........Halco Sunbury Co. Ltd
Telephone:.....0734 441525
Manifest:........Enormous ring-bound manual, 3 double-sided floppies & Mac-like storage box.
System:..........Any ST, STE or TT. 2MB RAM and hard disk required. Supports any resolution 640x400 pixels or larger.

Product:...... Calamus S - as above, excepting:
Price:..............£334.88 (£145 upgrade from any DTP package)

Ultimate Virus Killer
Version 5.x, written by Richard Karsmakers

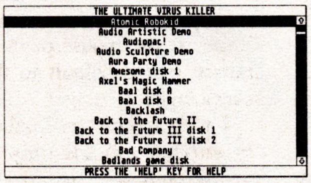


THE ULTIMATE VIRUS KILLER
Version 5.5GB
Written by Richard Karsmakers

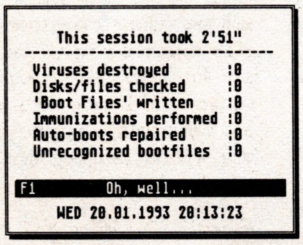
Douglas Communications
P.O. Box 119
Stockport
Cheshire SK2 6HW
England

F1 Search'n'Destroy Viruses
F2 Repair Disks
F3 UVK 5.5 Information
F4 System Status
F5 Quit to Desktop

WED 20.01.1993 20:10:37



THE ULTIMATE VIRUS KILLER
Atomic Robokid
Audio Artistic Demo
Audiopac!
Audio Sculpture Demo
Aura Party Demo
Awesome disk 1
Axel's Magic Hammer
Baal disk A
Baal disk B
Backlash
Back to the Future II
Back to the Future III disk 1
Back to the Future III disk 2
Bad Company
Badlands game disk
PRESS THE 'HELP' KEY FOR HELP



```
This session took 2'51"
------------------------------------
Viruses destroyed            :0
Disks/files checked          :0
'Boot Files' written         :0
Immunizations performed      :0
Auto-boots repaired          :0
Unrecognized bootfiles       :0
```

F1 Oh, well...

WED 20.01.1993 20:13:23

Features:

- * Recognises all known ST viruses, both bootsector and link viruses, and virtually all software that legitimately uses the disk boot sector.
- * All data on your disks remains 100% intact!
- * Immunizing of disks against all known bootsector viruses.
- * Option to repair damaged or destroyed Bios Parameter Blocks.
- * Option to write Anti-virus.
- * Latest version recognises over 60 viruses and can repair over 450 virus damaged boot-sectors.

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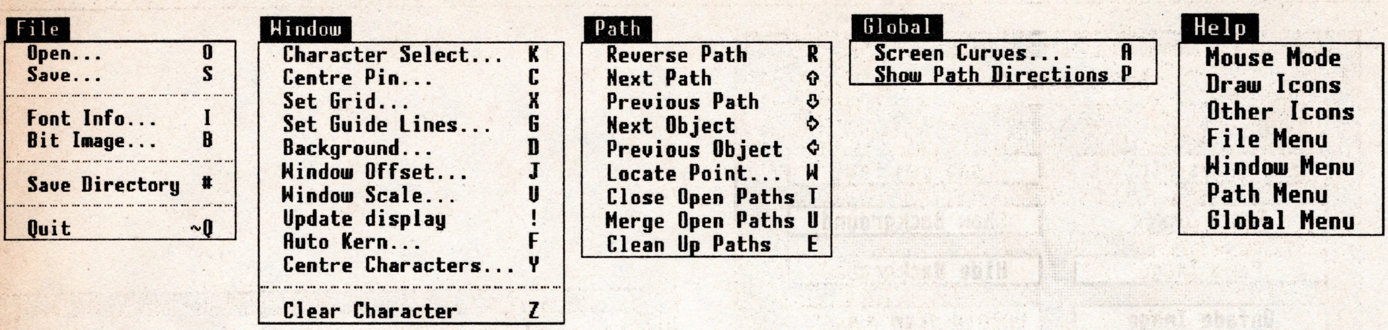


File

Open...	O
Save...	S
Font Info...	I
Bit Image...	B
Save Directory	#
Quit	~Q

Window

Character Select...	K
Centre Pin...	C
Set Grid...	X
Set Guide Lines...	G
Background...	D
Window Offset...	J
Window Scale...	V
Update display	!
Auto Kern...	F
Centre Characters...	Y
Clear Character	Z

Path

Reverse Path	R
Next Path	⇧
Previous Path	⇩
Next Object	⇨
Previous Object	⇦
Locate Point...	W
Close Open Paths	T
Merge Open Paths	U
Clean Up Paths	E

Global

Screen Curves...	A
Show Path Directions	P

Help

Mouse Mode
Draw Icons
Other Icons
File Menu
Window Menu
Path Menu
Global Menu

Fonty: A Calamus Font Editor

Reviewed by
Graham McMaster

Objectives

In this review I have assumed that most readers are familiar with the basic requirements of a font editor: a large, clear work area with variable magnification, a useful set of drawing tools, character manipulation facilities and global functions. It should be apparent from the list of menu options (above), the set of icons (Fig. 1) and the calculator display (Fig. 3) that Fonty more than satisfies these basic criteria. What I want to concentrate on are the additional features which, for me - having struggled with the standard editor that comes with Calamus (1.09N) - make Fonty special.

The Work Area

Fonty's work area is a conventional GEM window but if you have sufficient memory and a willingness to forego desk accessories, up to the GEM maximum of seven windows can be opened, each containing a different Calamus font and each with a different background. The backgrounds may be either GEM fonts or Degas images. If a font is chosen the background displays the GEM character currently being worked on and it sits on the baseline in a central position and is scaled to the height of the current em square. If that is not enough, the combination of right shift key and the mouse allows the background to be repositioned. Subsequently, when you zoom, the background follows.

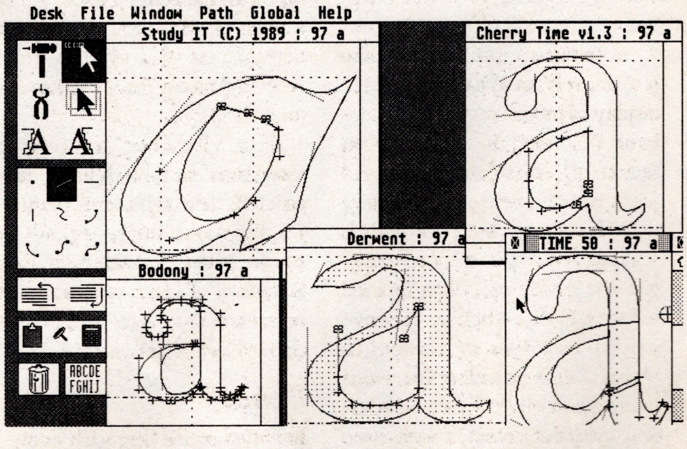
Degas images can be arbitrarily scaled (between x1 and x20) and repositioned. Thereafter it also follows changes in the foreground scale. With a *.PI3 image loaded, however, most functions are significantly slowed, making the 'hide background' option almost an essential feature.

The number of windows that can be opened (I found I could load four Calamus fonts and two GEM background fonts into my 1040 before Fonty protested) is less important than the fact that more than one is available. It is so useful when working on a font to be able to view similar characters and to observe how others solved the current problem. Characters and bits of characters (e.g. serifs, uprights, parts of ellipses, etc.) can be copied from one window to another by dragging: a feature which effectively increases the number of clipboards from one to a very large number. Moreover the 'Bits & Pieces' font can be saved from one session to the next.

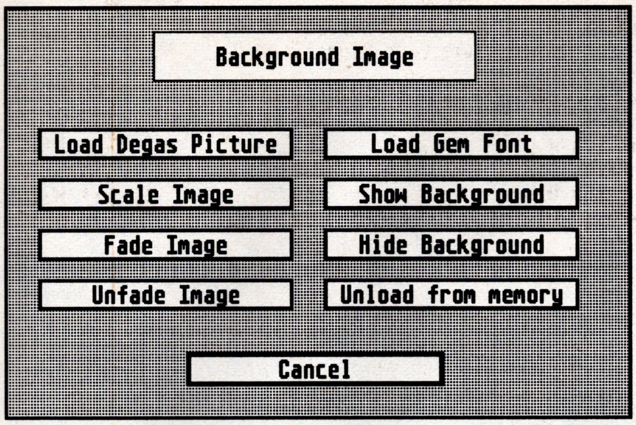
What all this means is that GEM fonts can easily be traced to form the basis of new Calamus fonts, and Degas clip art can be used to produce bullets fonts. My only regret is that Signum fonts cannot, as yet, be loaded into the background.

Drawing And Editing Tools

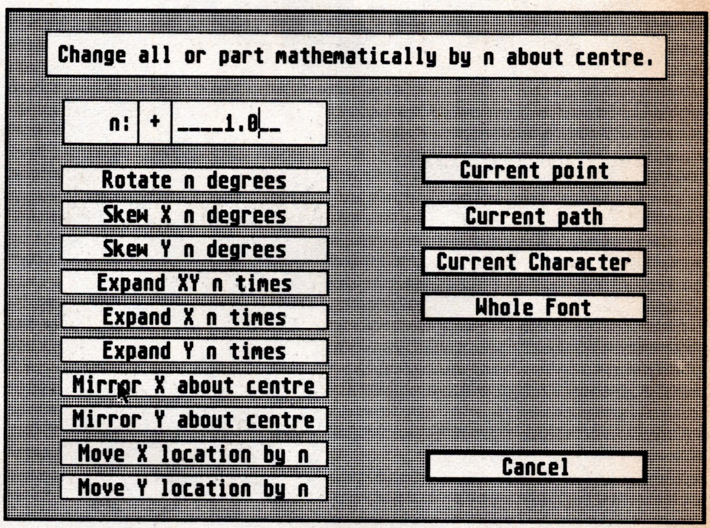
To the basic drawing tools of a point, lines and Bézier curves, Fonty adds pre-shaped curves of complementary concavity, a pair of right- and left-hand 'S' shapes and guaranteed horizontal and vertical lines. These are individually inserted in 'hammer' mode, deleted in 'pliers' mode and edited (by repositioning, changing the type of curve or reshaping the curve) in 'select points' mode. A path begins with a point followed by lines and curves and ends back at the original point. It is edited in 'select paths' mode. Characters consist of one or more paths which form an ordered stack with the most recent at the top. Two icons are devoted to moving the top path to the bottom or the bottom path to the top. In addition, the 'up' and 'down' arrow keys move up



△ Fig. 1: Fonty allows up to seven windows to be opened and filled with different Calamus fonts in the foreground, and either GEM fonts or Degas images in the background.


Background Image
Load Degas Picture
Load Gem Font
Scale Image
Show Background
Fade Image
Hide Background
Unfade Image
Unload from memory
Cancel

△ Fig. 2: The background dialogue box.


Change all or part mathematically by n about centre.
n: + ____1.0__
Rotate n degrees
Skew X n degrees
Skew Y n degrees
Expand XY n times
Expand X n times
Expand Y n times
Mirror X about centre
Mirror Y about centre
Move X location by n
Move Y location by n
Current point
Current path
Current Character
Whole Font
Cancel

▷ Fig. 3: Although the calculator is not programmable it contains a good range of local and global functions.

and down the stack selecting each path in turn.

In the absence of any guidance from the manual, I have concluded that the two pre-shaped concave curves have been designed specifically for drawing ellipses. If one of the icons is selected and its curve drawn, Fonty automatically selects the other icon and if that curve is drawn it meshes with the first. Continuing in this way, accepting Fonty's automatic selections, results in an ellipse. On the other hand, if you want to append a curve of particular concavity to a straight line, for example, I found that 50% of my selections were the opposite to what I intended.

A feature I particularly like but which is not apparent from the display of menu options and calculator functions, is the fact that almost all editing of points and paths can be performed precisely with the mouse. When a path is selected it is outlined by a rectangle. The mouse may then be used to move it as a whole or to move any of its edges or corners to obtain a corresponding expansion or contraction of the path. In addition, the combination of mouse and alternate key produces a pure rotation about the centre of the rectangle. During all these functions the normal display of mouse coordinates on the menu bar changes to relative displacement (or rotation).

The latter feature of displaying displacements could usefully be extended - perhaps by making it selectable with the right mouse button - to convert the mouse to a precision measuring instrument. Imagine being able to load a well-designed font and making precision measurements on it, e.g. the width of the legs of the 'm' compared to the white space between them, or the ratios of the major and minor axes of the ellipses forming the 'o'. At the end of a session with the editor I usually have a page of additions and subtractions, almost all of which would be rendered redundant by a displacement display.

If a character, consisting of more than one path, is being manipulated, the calculator is required. Its functions apply equally to points, paths, characters or fonts. Rotations of characters are with reference to a local origin user-defined by the drawing pin.

Extras

Included on the disc with Fonty is a rather nice interpretation of the Bodoni typeface called Bodony. It is just asking to have bold and italic versions to be created. If you have access to Postscript Type 1 fonts the utility PFB2CFN which is provided will convert them to CFN format but with a default kerning. That is easily rectified in Fonty. Two other TTP utilities - ANAL_CFN and ANAL_PFB - read Calamus and Postscript font files respectively and list them as text files.

Conclusion

The ST Club has acquired the knack of finding and launching really useful programs at very attractive prices. Fonty follows in that tradition. The overriding impression I am left with is of a precision drawing and editing tool. With outline fonts precision is crucial: imperfections that pass unnoticed at 10-12 points become glaringly obvious when printed at large point sizes.

There are three groups of users who will find Fonty irresistible: those who have rejected the standard editor supplied with Calamus 1.09N but have declined to pay the £100 at which alternatives start (Genus); those who use GEM fonts and have a copy of either C-Font or Fontkit will find it attractive to convert GEM fonts to Calamus fonts and then generate font families in a range of point sizes; and those who have not yet 'had a go' at designing fonts will be attracted by its ease of use and price (£11.95). Unfortunately, the latter group will find that the manual does not contain any tutorial material.

Product:..................Fonty
Version:..................1.0
Author:..................Mathew Carey
Publisher:..............The ST Club
Tel:..........................0602 410241
Price:......................£11.95
System:....................ST/STE Mono/Med
Manifest:.................One disc and a 20-page, A5 manual;
BODONY.CFN;
PFB2CFN.PRG font conversion program.

HISTORY in the National Curriculum

A TCOS database designed as a guide and aid to parents and teachers.

Review by Terry Freedman

Anyone who is closely involved with education, whether as a parent or as a teacher, knows that there have been frequent changes in what the Government maintains should be taught in schools in various subjects. One of the results of all this change is that it has become almost a full-time job in itself to keep up to date with it all: every week seems to bring a new parcel of "guidelines", "statutory orders" and what have you.

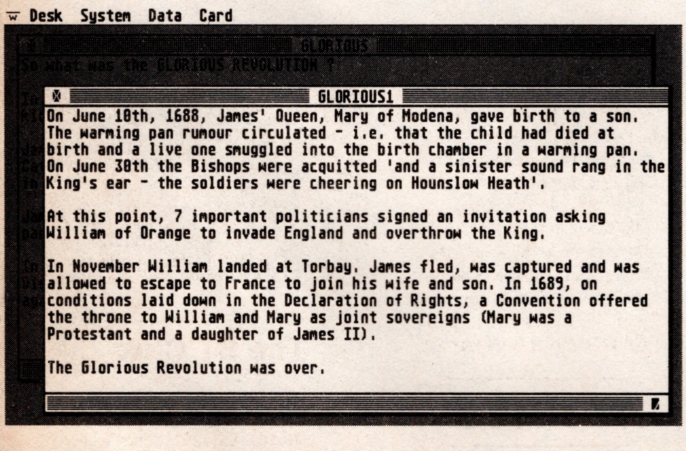
In the light of all this, it's a miracle - and a very welcome one! - that someone has had the time to put together a package which not only takes you through the National Curriculum as it pertains to History, but which also gives sample lesson plans and a wealth of historical material and suggestions on how to use it.

History in the National Curriculum is a two-disk database compiled with TCOS, which I reviewed in these pages last August. TCOS is a hypertext-like program in which "index cards" are filled with information. One card leads on to another, and they can be branched in a tree-like structure and nested one inside the other. Pictures can also be incorporated into the file. Consequently, although TCOS isn't hypertext in the full sense of the term, and is most definitely not "multimedia", it is nevertheless possible to build up quite complex files. History in the National Curriculum is such a file.

The first inkling you have that the file is a large one is when you load it. Even with 2MB of RAM it still takes several minutes. Once the file has been loaded you are presented with a title screen which sets the tone of the whole thing, since it contains a couple of quotations which should get you thinking. Those of us who are familiar with other material produced by the author, Jim Fanning, will not be surprised by this. "Death of a President", "A Roman Mystery" and his other material are all characterised by a constant prodding, forcing you to ask questions and to take almost nothing as read.

The two main branches of History in the National Curriculum are Attainment Targets and Study Units, and each of these is subdivided into further sections.

The Attainment Targets section is excellent for getting a quick résumé of what the National Curriculum in History is all about. For hard-pressed History teachers this is a boon indeed, but it will also be of interest to parents who wish to know more about what their child is supposed to be doing at school. The author has managed to strip the official tomes of waffle and jargon, leaving the basics in a form which most people should be able to understand.



```
On June 10th, 1688, James' Queen, Mary of Modena, gave birth to a son.
The warming pan rumour circulated - i.e. that the child had died at
birth and a live one smuggled into the birth chamber in a warming pan.
On June 30th the Bishops were acquitted 'and a sinister sound rang in the
King's ear - the soldiers were cheering on Hounslow Heath'.

At this point, 7 important politicians signed an invitation asking
William of Orange to invade England and overthrow the King.

In November William landed at Torbay. James fled, was captured and was
allowed to escape to France to join his wife and son. In 1689, on
conditions laid down in the Declaration of Rights, a Convention offered
the throne to William and Mary as joint sovereigns (Mary was a
Protestant and a daughter of James II).

The Glorious Revolution was over.
```

△ The Glorious Revolution explained in five minutes!

Thus we are informed that "By the end of Year 9 pupils would be expected to give a reason for a historical event...". For further clarification, you can click on the word "Example", whereupon a box containing an example pops up.

Not all of the examples give you information "on a plate". For example, one of the aims of Attainment Target 3 is for pupils to be able to comment on the usefulness of an historical source. Click on "Example" and you're told to visit a castle or a manor house and describe what you see!

By browsing through the Attainment Targets section of the program you will soon gain a very thorough understanding of what the students are expected to do, and by when.

The Study Units section contains Core and Supplementary study units, and "A Typical School Curriculum". In the Core Study Units section we discover that Unit 3 is called "The Making of the United Kingdom...1500-1750". As well as being told what should be taught under this heading, actual historical information is also provided. Thus we are treated to a two-page summary of the Glorious Revolution.

Using the sections on Study Units, interested parents can find out in much greater detail what their children are being taught. In fact, the kids themselves will benefit also from the quick History lessons provided.

The final section, "A Typical School Curriculum", is worth buying the package for in itself if you are a History teacher. What the author has done is to not only plan your year for you in Years 7 to 9 but also to give you a number of individual lesson plans, complete with suggestions and historical data.

The information, both verbal and pictorial, is presented in a clear and interesting manner. Anyone who can click a mouse button will be able to navigate their way through the material with ease. But what if the National Curriculum in History changes? Because the program is Public Domain there is no way in which you can register for updates. On the other hand, it is so inexpensive that even if the goalposts were moved a week after you purchased the program you could not really complain.

The main drawbacks of 'History in the National Curriculum' are those associated with TCOS itself: the inability to print, for example, and the time taken to load the file. Also, there is no accompanying documentation. However, all in all, this is an excellent package which should be in the disk boxes of anyone concerned with History teaching in this country.

Summary

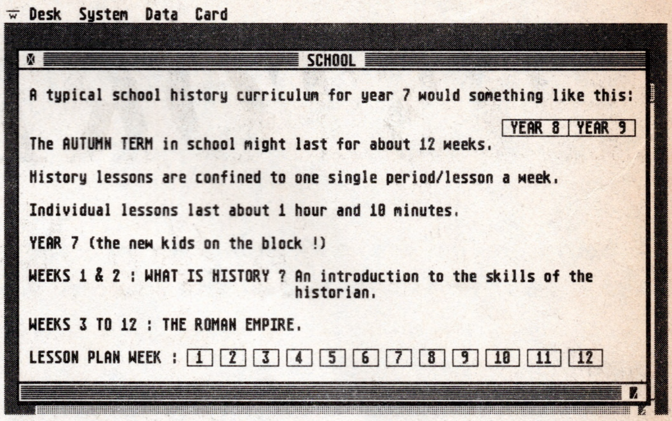
Points for:

- ✓ Very comprehensive
- ✓ Easy to use
- ✓ Easy to understand
- ✓ Stuffed with information

Points Against:

- ✘ No documentation
- ✘ No printing facility
- ✘ Takes a long time to load

Product:...... History in the National Curriculum
Price:..............£3
Supplier:.........Goodman International
16 Conrad Close
Meir Hay Estate
Longton
Stoke-on-Trent
Staffs ST3 1SW
Telephone:....0782 335650
Fax:................0782 316132
Manifest:........Two double-sided disks
System...........All Atari ST(E) machines, medium/high resolution.


Desk System Data Card
SCHOOL
YEAR 8
YEAR 9

A typical school history curriculum for year 7 would something like this:

The AUTUMN TERM in school might last for about 12 weeks.

History lessons are confined to one single period/lesson a week.

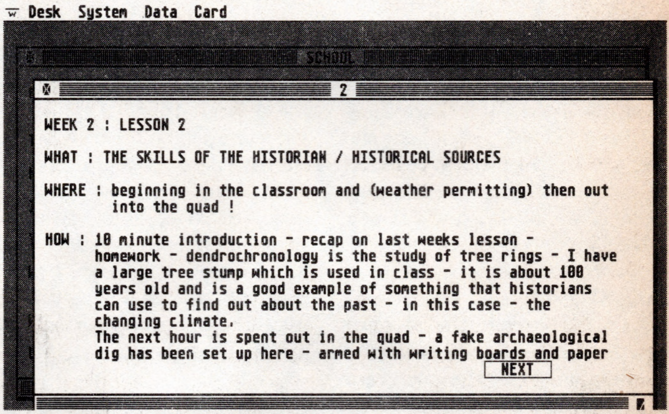
Individual lessons last about 1 hour and 10 minutes.

YEAR 7 (the new kids on the block !)

WEEKS 1 & 2 : WHAT IS HISTORY ? An introduction to the skills of the historian.

WEEKS 3 TO 12 : THE ROMAN EMPIRE.

LESSON PLAN WEEK : 1 2 3 4 5 6 7 8 9 10 11 12


Desk System Data Card
SCHOOL
2
NEXT

WEEK 2 : LESSON 2

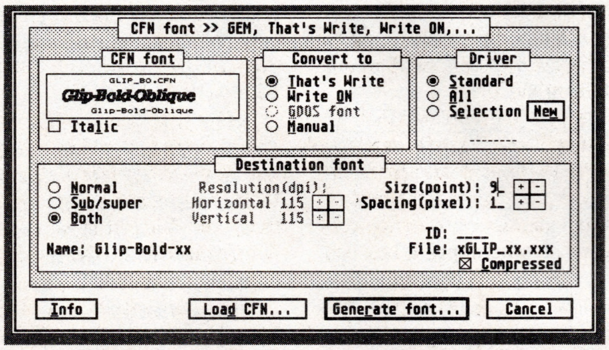
WHAT : THE SKILLS OF THE HISTORIAN / HISTORICAL SOURCES

WHERE : beginning in the classroom and (weather permitting) then out into the quad !

HOW : 10 minute introduction - recap on last weeks lesson - homework - dendrochronology is the study of tree rings - I have a large tree stump which is used in class - it is about 100 years old and is a good example of something that historians can use to find out about the past - in this case - the changing climate.
The next hour is spent out in the quad - a fake archaeological dig has been set up here - armed with writing boards and paper

Right and above right: No more lesson preparation for the next year - the author has done it for you!

C-Font


CFN font >> GEM, That's Write, Write ON,...
CFN font
GLIP_BO.CFN
Glip-Bold-Oblique
Glip-Bold-Oblique
Convert to
Driver
Destination font
Info
Load CFN...
Generate font...
Cancel
New

☐ Italic

● That's Write
○ Write ON
○ GDOS font
○ Manual

● Standard
○ All
○ Selection

○ Normal
○ Sub/super
● Both

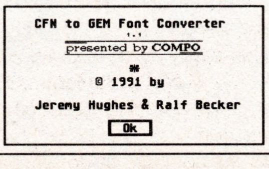
Resolution(dpi):
Horizontal 115
Vertical 115
Size(point): 9
Spacing(pixel): 1
ID: ____
Name: Glip-Bold-xx
File: xGLIP_xx.xxx
☒ Compressed

Converts outline fonts in .CFN file format to GEM bit-mapped fonts at various point sizes for That's Write, Write ON, K-Spread, Calligrapher, Redacteur 3, Timeworks Publisher 1 and 2, Fleet Street Publisher, and any application that uses GDOS fonts.

C-Font can be installed as an Accessory allowing it to generate fonts 'on-the-fly' from within your application. When generating fonts for That's Write, Write ON or GDOS applications C-Font will automatically work out what resolution of fonts you need to generate.

£9.95

The ST Club
2 Broadway
Nottingham
NG1 1PS

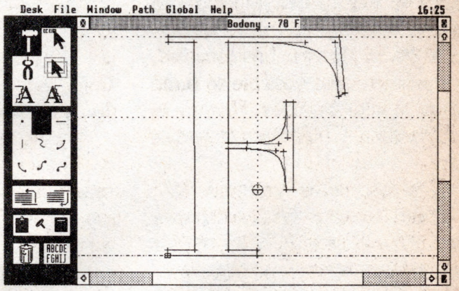


CFN to GEM Font Converter
1.1
presented by COMPO
© 1991 by
Jeremy Hughes & Ralf Becker

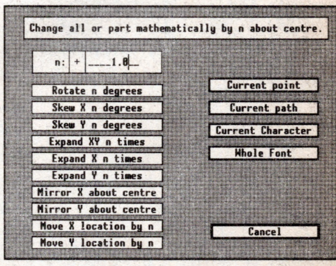
Fonty

Calamus Font Editor

This is a fully featured editing program for creating and editing Calamus CFN-format font files. Also, when used in conjunction with C-Font or Fontkit Plus, CFN files created with Fonty can be used to generate sets of bit-mapped fonts for use in packages such as: K-Spread4, Degas Elite, Timeworks DTP, Calligrapher, That's Write, Redacteur 3, and Wordflair.


Desk File Window Path Global Help
16:25
Bodony : 78 F
ABCDE FGHIJ

Fonty features include: draw mode icons (Hammer mode, Pliers mode, Move mode, Select path mode, left and right kern mode), Grids and Guide Lines, Manual and Automatic kerning, Backgrounds for tracing (a Degas picture or a complete GEM font), a full feature Calculator to mathamatically manipulate fonts, and Window scaling. A separate program, PFB2CFN, reads a Postscript Type 1 Font file and copies it into a Calamus CFN font file.


Rotate n degrees
Skew X n degrees
Skew Y n degrees
Expand XY n times
Expand X n times
Expand Y n times
Mirror X about centre
Mirror Y about centre
Move X location by n
Move Y location by n
Current point
Current path
Current Character
Whole Font
Cancel

Change all or part mathematically by n about centre.
n: + ____1.0

£11.95

The ST Club
2 Broadway
Nottingham
NG1 1PS
Phone (0602) 410241

Spiritware Concordance

The Spiritware Concordance Program is the only Bible search program available for the Atari ST which supports the New International Version Bible (NIV) text. It is obtainable directly from Spiritware at the Fifteenth Avenue Bible Church in Seattle as a series of program and text modules.

Version 3

Version 2.2 of the search program is similar to an earlier version available in the Public Domain. A double-sided disk and at least one megabyte of memory is required to run it, although a hard disk drive is recommended. If a floppy disk is used, only one segment of scripture can be accessed at a time. ST medium and high resolutions are supported, but TT resolutions are not.

Version 3 of the program requires a double-sided disk drive, a hard drive and a two megabytes of memory. ST medium and high resolutions and the TT are supported.

Three alternative text modules are available, these are:

The New International Version: This can be used with version 2.2 or 3.0 of the search program. Installation of the program on a hard disk requires about 2.5 megabytes of disk space.

The King James (Authorised) Version: Again works with both search program versions and takes up 2.5MB of hard disk space.

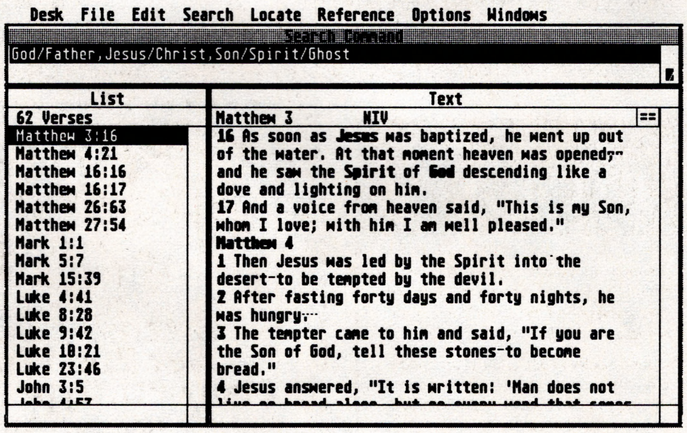
The Greek New Testament: Works only with version 3.0 and includes a Greek English Dictionary. GDOS, FSMGDOS or the equivalents are required to print out Greek characters, which otherwise appear in a transliterated form. Installation requires about 1.5 megabytes of hard disk space.

Delivery

I sent off an International Money Order to Spiritware in Seattle and within ten days a padded envelope arrived containing the manual and eight disks filled with version 3.0 of the program, The NIV Text and Greek New Testament.

The manual runs to 133 pages and is comprehensive with a tutorial section, fault-finding appendix and index. Installation to a hard drive is a fast and painless process.

In addition to the main program there are three utilities included in the package. The chief of these is a text editor named 'Spirited' which runs as a desk accessory. 'Spirited' is designed to run alongside the main search program, accepting Bible text from it and also providing a means of appending study notes to individual Bible verses. The installation of 'Spirited' proved to be a problem.



```
God/Father,Jesus/Christ,Son/Spirit/Ghost

62 Verses          Matthew 3          NIV
Matthew 3:16       16 As soon as Jesus was baptized, he went up out
Matthew 4:21       of the water. At that moment heaven was opened,
Matthew 16:16      and he saw the Spirit of God descending like a
Matthew 16:17      dove and lighting on him.
Matthew 26:63      17 And a voice from heaven said, "This is my Son,
Matthew 27:54      whom I love; with him I am well pleased."
Mark 1:1           Matthew 4
Mark 5:7           1 Then Jesus was led by the Spirit into the
Mark 15:39         desert to be tempted by the devil.
Luke 4:41          2 After fasting forty days and forty nights, he
Luke 8:28          was hungry.
Luke 9:42          3 The tempter came to him and said, "If you are
Luke 10:21         the Son of God, tell these stones to become
Luke 23:46         bread."
John 3:5           4 Jesus answered, "It is written: 'Man does not
```

△ Figure 1

The Text modules supplied in the package are in a compressed format. The second utility supplied, 'expander.prg', claims to decompress them into a form readable by the public domain word processing program 'ST Writer'. The program worked well, decompressing a book from the Bible within a few seconds.

The last utility claims to translate ASCII files into a format recognised by the word processing program 'Word Writer'.

Using the Program

On starting up the program three GEM windows and the usual menu bar are displayed (figure 1). The top window is labelled 'search command' and is used to enter words for which a search is required. A current selection of Bible text appears in a window below and to the right of the search command. A list of verses found by the search command appears in the left window.

Viewing Text: Even without use of the search command facility the scroll bars can be used in an intuitive fashion to navigate quickly and easily through the Bible text. In order to facilitate the process further a book selector dialogue box is available via the top menu bar. It is also possible to search for individual verses using a second dialogue box. Typically these facilities were able to find and display the required book or verse in less than 2 seconds, a far faster process than leafing through a Bible.

The Search Command: This represents the true Concordance function of the program. The simplest search consists of a one word entry in the search command window. Pressing return then commences the search and an information box appears which indicates the current book being examined. Using a combination of commas and back slashes, the search can be diversified.

In the example shown in figure 1 the combination of God/Father, Jesus/Christ, Son/Spirit/Ghost in the search commmand window locates all verses which contain either God or Father and Jesus or Christ and Son or Spirit or Ghost. A search of the entire Bible using this combination took 41 seconds. A Search of the entire Bible for the word 'Spirit' took 26 seconds and gave 477 occurences. It is also possible to use range (~) and Wild Card (+) commands within the search.

Limiting the Search: A series of button boxes similar to the book display buttons is available to limit the search to a book or area of the Bible.

Printing the results: A dialogue box is available which enables a printout of the list of verses, current verses, all verses or selected verses. A simple option box enables some control over the printed output.

Saving the Search: A similar dialogue box to that used for printout enables the text to be saved as an ASCII or word processor DOC file.

The Greek New Testament

Version 3.0 of the concordance program enables the Greek New Testament module to be displayed side by side with the English New Testament (figure 2). The Search Command facility can be used to search the Greek text. To avoid having to type unfamiliar Greek Characters, a Greek word highlighted in the body text, using the mouse, can be transferred to the Search Command Window.

No problems were experienced printing out the Greek font supplied with the package, provided that GDOS was installed.

A comprehensive Greek dictionary is available in memory. Meanings of Greek words can be found almost immediately (typically 3 seconds) by highlighting the body text using the mouse. A dialogue box appears which allows reference to a Greek/English dictionary. An alternative command button within the dialogue box allows the parsing of the Greek word to be displayed.

Statistics Information

A whole host of information on word frequencies and occurrence can be obtained from the text and displayed as printout (including a word frequency bar chart).

Other Facilities

Other facilities in Version 3.0 include morphological and grammatical search facilities for more advanced biblical scholars.

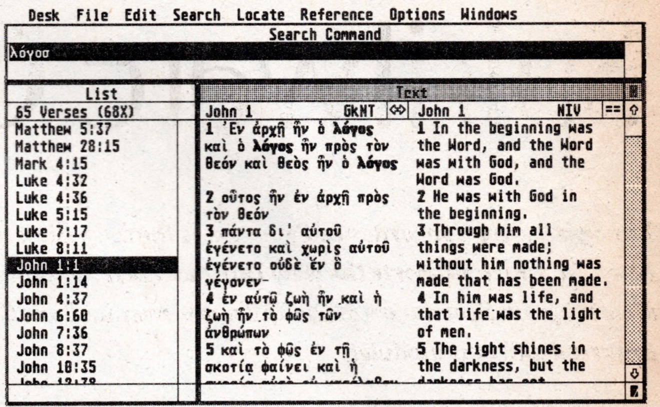
Spirited

The installation of Spirited caused the only difficulties encountered. When called up, this text editing facility is supposed to appear as a window beneath the two text and verses windows. On my system the 'Spirited' window appeared but movement of the mouse thereafter caused the program to crash. Using Superboot I removed all other desk accessories and Auto programs, but this did not solve the problem. I finally managed a partial fix by removing Superboot altogether and starting the Concordance installation procedure from scratch. 'Spirited' then worked grudgingly. It may be my ancient version of TOS (1.02) that is at fault. All these problems do not detract at all from the main program.

Conclusion

As a Bible study tool the Spiritware Concordance Program is enormously useful. It is immediately intuitive to use and yet contains many advanced search tools within its structure. Indeed there are so many facets of this program that I am unable to mention them all within the space of this short review.

The search times are breathtaking. My machine is an STFM with an old version of TOS (1.02) and a 32MB hard disk with a 36msec access time. With this set up, the program was able to find and display 477 occurrences of the word SPIRIT within 26 seconds. No doubt a TT or Mega STE would be considerably faster. The Greek New Testament and Dictionary was even more impressive with an almost immediate Greek to English facility on tap. Even if you don't read your Bible, this program must rate as one of the best available for the Atari.



λόγοσ

65 Verses (68X)
Matthew 5:37
Matthew 28:15
Mark 4:15
Luke 4:32
Luke 4:36
Luke 5:15
Luke 7:17
Luke 8:11
John 1:1
John 1:14
John 4:37
John 6:60
John 7:36
John 8:37
John 10:35

John 1 GkNT

1 Ἐν ἀρχῇ ἦν ὁ **λόγος** καὶ ὁ **λόγος** ἦν πρὸς τὸν θεόν καὶ θεὸς ἦν ὁ **λόγος**

2 οὗτος ἦν ἐν ἀρχῇ πρὸς τὸν θεόν

3 πάντα δι' αὐτοῦ ἐγένετο καὶ χωρὶς αὐτοῦ ἐγένετο οὐδὲ ἕν ὃ γέγονεν·

4 ἐν αὐτῷ ζωὴ ἦν καὶ ἡ ζωὴ ἦν τὸ φῶς τῶν ἀνθρώπων

5 καὶ τὸ φῶς ἐν τῇ σκοτίᾳ φαίνει καὶ ἡ

John 1 NIV

1 In the beginning was the Word, and the Word was with God, and the Word was God.

2 He was with God in the beginning.

3 Through him all things were made; without him nothing was made that has been made.

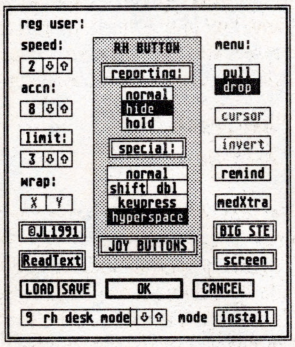
4 In him was life, and that life was the light of men.

5 The light shines in the darkness, but the

△ Figure 2

Product:	SpiritWare Concordance Program
Programs:	
	Version 2.2 .... $10
	Version 3.0 .... $20
Text Modules:	
	New International Version (NIV) $30
	King James (Authorised) Version $20
	Greek New Testament $30
Available from:	Spiritware, Fifteenth Avenue Bible Church, 15211 15th Avenue N.E., Seattle, WA 98155. U.S.A. Cheques made payable to FABC.

Mouse Tricks 2



* Mouse Tricks combines many of the functions of existing mouse utilities in a single desk accessory and adds numerous extra functions of its own.

* Mouse Tricks can set up suitable modes of mouse behaviour for particular programs. An optional screen saver is also included.

* Mouse speed can be reduced as well as increased. This allows a cross-hair mouse add-on such as "Tracey" to trace artwork of any size.

* All the functions of Mouse Tricks can be adjusted through a set of easy to follow dialog boxes.

* As many as 20 different settings can be named and saved, and each mode can be selected via a dialog or a user selected keycode.

* Mouse Tricks keeps a list of up to 40 different programs; for each program on the list you can specify both the mode you wish to be installed when a program is run, and the maximum amount of memory initially available to that program.

* Mouse Tricks contains a text reading utility, Read Text, with which you can load, read and switch between as many as eight text files from within any program that allows access to desk accessories.

* Read Text can also be invoked by double-clicking on the desktop icon of the file you want to read, or by pressing a user defined keycode.

* Big STE is a virtual screen utility that uses the STE's video display hardware to provide instantaneous smooth scrolling around virtual large screens of any (feasible) dimensions, with the option of an interlaced display for any screens with double (or greater) the normal screen height.

* Tutorial function to help you learn to use Mouse Tricks.

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5 West Midlands National Motorcycle Museum J6 M42
12 London Sandown Park, Esher, Surrey J9/10 M25
13 Wales Univ. Union, Park Place, Cardiff
1993
Jan 17 West Midlands National Motorcycle Museum J6 M42
23 North East Northumbria Centre, Washington, Dist. 12
24 North Univ. Sports Centre, Calverley St., Leeds
30 Nottingham Jesse Boot Centre, University
Feb 6 London Novotel, Hammersmith
7 Wales Univ. Union, Park Place, Cardiff
13 London Sandown Park, Esher, Surrey J9/10 M25
14 West Midlands National Motorcycle Museum J6 M42
20 North West Haydock Park Racecourse J23 M6
21 Scotland City Hall, Candleriggs, Glasgow
27 Hemel H/stead Dacorum Pavilion, The Marlowes
28 West Brunel Centre, Templemeads, Bristol
March 6 Leicester De Montfort Hall, Granville Road
7 North Univ. Sports Centre, Calverley St., Leeds
20 London Sandown Park, Esher, Surrey J9/10 M25
21 West Midlands National Motorcycle Museum J6 M42
27 North West Haydock Park Racecourse J23 M6
April 3 Edinburgh Appleton Tower, George Square
4 Scotland City Hall, Candleriggs, Glasgow
17 Nottingham Jesse Boot Centre, University
18 West Midlands National Motorcycle Museum J6 M42
24 London Sandown Park, Esher, Surrey J9/10 M25
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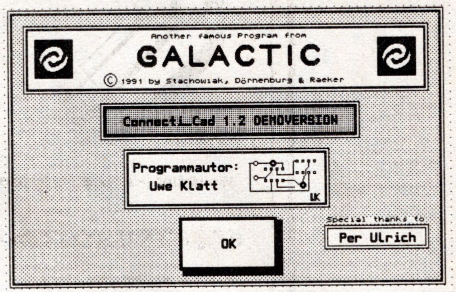
CONNECTICAD

R.L. Tufft reviews a CAD software package that helps you to design your own printed circuit boards.



Another famous Program from
GALACTIC
© 1991 by Stachowiak, Dörnenburg & Raeker

Connecti_Cad 1.2 DEMOVERSION

Programmautor:
Uwe Klatt

Special thanks to
Per Ulrich

We all know that Germany often produces first class serious software and we also know that in many instances all the accompanying README files and documentation are written in German which is not of much help to those of us who don't speak it. Carrying out a word for word translation of German is very time-consuming and usually fails to provide anything better than a very rough guide. The alternative is to dive into the programme and find out the hard way how to get results. My first exercise with ConnectiCAD was to translate the various menu items with the help of a dictionary, and after that to use mainly a 'try it and see' approach. Fortunately, ConnectiCAD is very user-friendly in that the Cut & Paste operations are conventional and most of the other operations are what you would expect if you have had previous experience of PCB (printed circuit board) design techniques. Assuming that the reader knows the rudiments of making a 'home brewed' PCB will avoid a lengthy dissertation on that technique and allow us to consider the salient points of the software. It should be mentioned that the original demo disc supplied by the ST Club was later superseded by one which had been modified to show the menu items and all the important dialogue boxes in English, and this version makes coming to grips with the programme that much easier.

DemoCad/ConnectiCAD Features

The only difference between the two versions is that it is not possible to 'SAVE' with the Demo package. The component library provided with the programme is not extensive but that is no real disadvantage since it is quick and easy to add your own preferences. It is possible to magnify your working area up to twenty times and a screen raster (grid) or guide lines can be varied to suit as can the mouse 'snap' to grid relationship. In most instances using twice full size is adequate for sketching in most electronic components which can then be reduced to full size. There is essentially no limitation on the angles used for lines or components and full facilities are provided to 'flip', 'rotate', 'invert', 'copy', print text at any angle either forward or reversed with a wide choice of text sizes from too small to read up to full screen size, making it ideal for annotating the component positions on a PCB; R1, R2, C7, C23 for example. See Fig 1a.

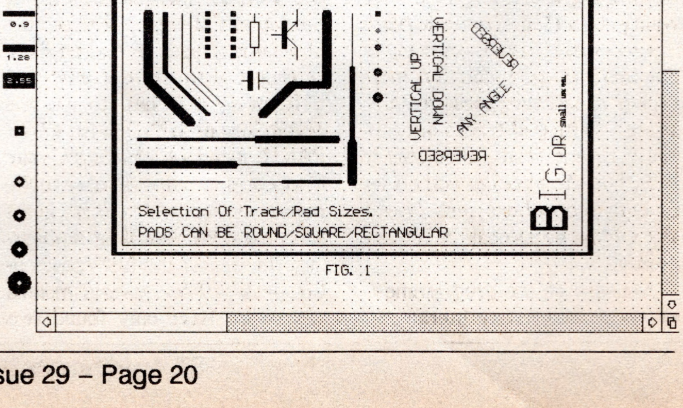
Those of you who have taught yourselves the discipline needed for successful PCB drawing will appreciate the need to be able to print reversed text, particularly when that enables you to work from what is essentially the same side of the board for the entire operation. It is as though the PCB board is fully transparent so that you can see either the side you are working on or the reverse side seen through the board. See Fig.2. This removes the need to have to think in 'mirror' images dependent on which side of the board you're working on. You will now appreciate the need for reversed text-to-screen printing. Naturally, when you come to print out the finished design you have to rejoin the real world where the reverse face of a PCB must be in an opposite sense. Fortunately, the print-out facility gives you the option to reverse print. A bonus is the ability for the print-out to be of either PCB side or as a composite print-out where one selected side is printed normally and the other side is printed shadowed. This enables you to examine the component side of a PCB with the track side also being visible. No more must you look from one drawing to another and mentally flip over either the component side or track side. Most popular radio and electronic magazines often use the same technique for illustration purposes.

The default settings for track widths and component sizes are in imperial, not metric, dimensions and that was done not for our benefit but because most electronic components have been derived from American technology which still uses inches rather than millimetres. The default can be changed to metric if needed. or you can use a mixture of both.

Several sizes of pads, square or round, are provided and provision is made to adjust the sizes should that be required. Should you wish to increase the size or shape of some or all of the pads you have already laid down then that is provided for and a few clicks of the mouse button will change all or some of the pads to a different size. The same applies to track thicknesses. If you accidentally delete something then pressing the UNDO key will restore it. If you need to duplicate a part of the circuit then that is very easily carried out as is copying from one side of the board to the other. This last facility is frequently used because it is easier to put down pads, tracks and components on one side and then to transfer all the pads to the underside of the board in one fell swoop. Moving a board around the screen calls for a degree of care because each side shown on screen is independent of the other side so it is best to either show the board outline or else to put down corner datum lines so that you can easily line up the board images again. Often a PCB is started with no firm size decided, but temporary board outlines only take a few seconds to draw and can be changed as often as necessary.

Many other facilities are provided which include:

- ➡ Cut and paste with selectable parameters.
- ➡ Grab end or start of a line
- ➡ Absolute or relative co-ordinates
- ➡ Track/pad joins so that pad holes are not filled in.
- ➡ Move/bend/restore tracks.
- ➡ Rename file.
- ➡ Format disc within the programme.
- ➡ Preferred library of components easily created.
- ➡ Magnify/zoom screen.



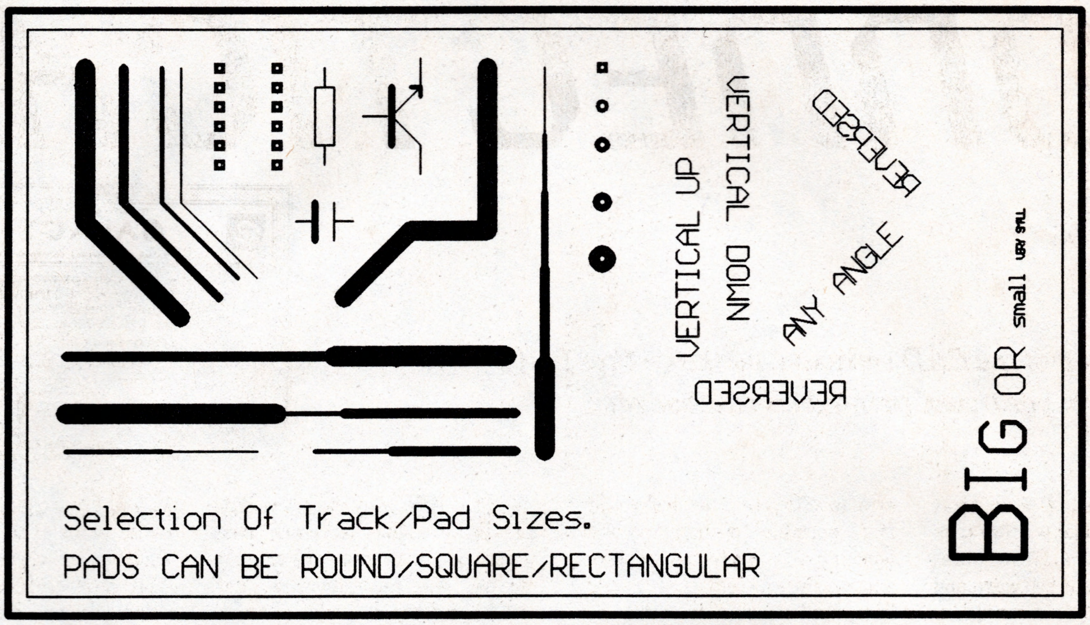
X: 1.200 Y: 1.300

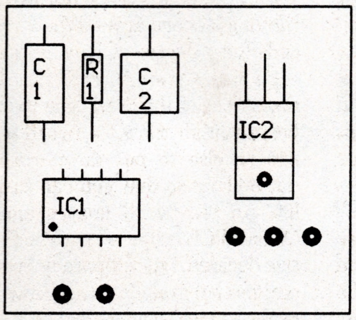
Zoom: 1, Einrasten auf 1/10 inch, Texthöhe: 3 mm, «L» «B»

811=2% Seite: 1

Selection Of Track/Pad Sizes.

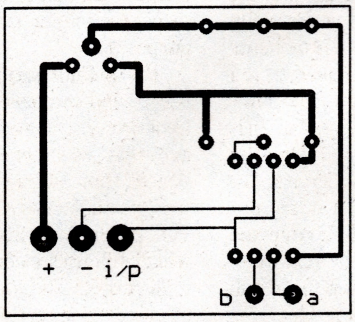
PADS CAN BE ROUND/SQUARE/RECTANGULAR


VERTICAL UP
VERTICAL DOWN
REVERSED
REVERSED
ANY ANGLE
BIG OR small
Selection Of Track/Pad Sizes.
PADS CAN BE ROUND/SQUARE/RECTANGULAR



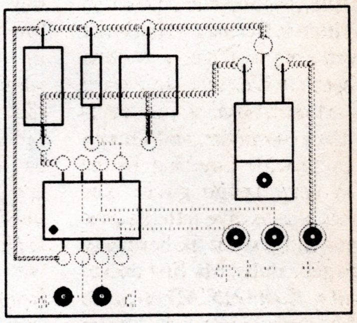
COMPONENT SIDE.

FIG. 2a



VIEW OF TRACK SIDE

FIG. 2b



COMPOSITE VIEW

FIG. 2c

- Printer drivers for 9/24-pin and HP LaserJet. The HP DeskJet uses a sub-set of the Laser commands and prints out perfectly, albeit somewhat slowly. The Printer menu provides the options to print out larger or smaller than full size at a preferred resolution. Reverse print-out. Portrait or Landscape. Composite sides print-out showing the reverse side shadowed.
- Vector orientated graphics prevent loss of resolution with different print-out sizes.

After using a drawing board for laying out a PCB, ConnectiCAD is a revelation. It has not got many of the facilities provided by more expensive software packages such as auto-routing of tracks or automatic layout from schematic to PCB, but the average home user can get by without such finesse when only occasional PCB's are needed.

One use of the programme is not mentioned in any literature I have seen and that is the ease with which a theoretical circuit diagram can be produced. Symbols for resistors, transistors, I.C.'s, transformers and so on can either be drawn in as required or else, if you have the full version of the programme, can be called from or added to a symbol library.

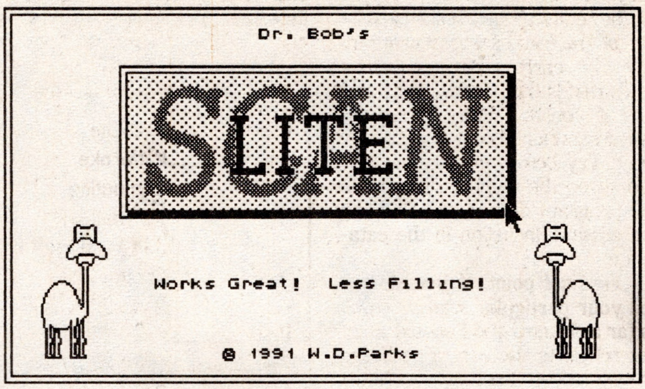
The foregoing should help you get started but be careful when using Merge in the DATA menu. This will allow you to mergeload an assembly or component on screen without clearing the existing screen display but it will place and FIX the merged drawing at the top left of screen irrespective of what is already in that position. Boxing it in to move it might be difficult so it is best to use the <TAB> key or LOAD in the CUT/PASTE menu which merges your component or sub-assembly to the mouse cursor which then gives total freedom regarding positioning. I have used the full version of ConnectiCAD for several months and so far have only found two very minor irritations one being the inevitable redrawing of the screen each time the scroll bars are used and the other being the long wait for a print-out to be be aborted when the right hand mouse button is pressed. When attempting to use those menu items not mentioned in this review bear in mind that in most instances you will need to box-in the particular area you wish to fiddle with either before or after selecting a menu item. The required sequence depends on the function needed but if you do it the wrong way round then nothing will happen and no harm will occur. Be warned that if you press <DELETE> with any part of your drawing shown dotted then it will be deleted. Also the command ERASE SCREEN erases all sides of a PCB and, in effect, puts you back to the start. To erase one particular side or part, box in the area and then press <DELETE>, o,r if you've changed your mind, click on UNMARK in the Cut/Paste menu.

The foregoing applies to both the Demo and Full versions but 'SAVE' is inhibited with the Demo package. If you're able to read German then the on-disk manual is virtually identical to the printed German manual except for the omission of explanatory illustrations. I obtained my copy of the Demo version from the ST Club and later purchased, direct from Germany, the full version. I was advised by Galactic, the German publisher of the software, that an English version would be available in August 1992 but that didn't come to pass. However, as already mentioned, the package is very user-friendly, and so don't let the lack of a manual stop you giving it a try.

The ST Club demo version is on DRG.46 and includes English Menus.

ScanLite

Review by Derryck Croker



Dr. Bob's

SCAN LITE

Works Great! Less Filling!

© 1991 W.D.Parks

△ Fig. 1: This greeting is only shown on the first running of ScanLite, which gets the message over without becoming wearing after being viewed for the nth time.

Many art, drafting or DTP programs, usually those of Germanic origin, have the ability to use scanners directly, built right in the GEM menu bar. Sadly though, those scanners are not the ones that seem to enjoy universal popularity in England, where the handhelds reign supreme. There seems little if any chance of the software companies responsible for writing scanner programs making their drivers available to third parties for inclusion as additional modules.

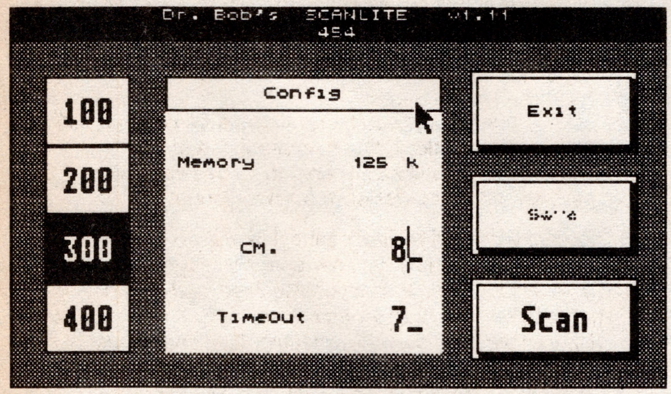
Into this gap Ladbroke Computing have imported ScanLite from Dr BobWare, an American company that is not well known in England. ScanLite may be run either as a stand-alone program or as an accessory, and it is in this latter mode that it is likely to find its main use as well as providing the basis for this review.

Supplied in minimalist packaging of a cardboard sleeve doubling as a (very short) manual and accompanied by a registration card, a small addendum sheet and a Readme file, ScanLite's documentation is at first a confused affair, but once the configuration setup has been negotiated the program is absurdly easy to use.

Overview

Probably the first thing that potential purchasers of ScanLite will expect is the ability to scan directly into their particular application, and so this is the first point that I shall address. ScanLite will scan from any program that supports accessories, but *will not* scan directly into an open GEM window. Instead, scans are made into ScanLite's internal buffer. Once the scan has been completed, the dialogue box of figure 2 reopens to allow it to be saved as an .IMG file, which can then be loaded into the program after closing the accessory. These additional steps do not make the program particularly difficult to use, but the large size of some files may make loading and saving a lengthy affair. The box-out, whilst primarily showing the amount of reserved buffer space required, can also be used to estimate resulting file size - compressed files should take up much less room, and should also load into any Atari program that supports the .IMG format.

Having said that, there is rather a delightful symbiosis between this and MegaPaint Professional. The latter supports subprogram modules, of which several are available in the Public Domain. One such (supplied on the disk) calls up the ScanLite accessory, from which a scan may be made directly into MegaPaint without any buffer space at all required. Once the scan has been completed it is immediately ready for further editing as necessary without going through the intermediate steps outlined. This is just how one would hope one program should be able to pass information to another, but sadly not implemented on the ST.



Dr. Bob's SCANLITE v1.11
454

Config

Memory 125 K

CM. 8

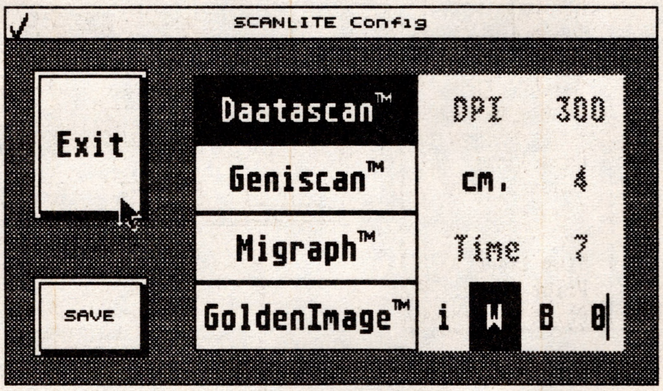
TimeOut 7

△ Fig. 2: Using ScanLite could not be easier. Just choose the required resolution, which is usually chosen to be as close to your output device as possible - check that your scanner is set to the same value - select the length of scan - and away you go. Scans are shown on screen in real time, and a scan is terminated when either the required length of scan (width is the usual four inches) or the timeout figure is exceeded, or when the amount of buffer memory is exceeded. The size of this buffer is set using the separate configuration program, but the length of scan and the timeout are immediately adjustable, the latter making for a graceful exit from a scan that can be seen to be going wrong. This is a feature that is sadly lacking from Paandal Marketing's scanning software.

As far as actually using ScanLite goes, it relies on reserving sufficient memory to act as a buffer into which to scan as we have already seen, set as shown in figure 4. The minimum buffer size is normally 64K, but an alternative size of 0K lets ScanLite use whatever memory is left after the main application has loaded into which to scan. Mostly wishful thinking, I'm afraid, since most programs will immediately hog all available memory for themselves, and so, practically speaking, a buffer must be set and loss of system memory must be tolerated all the time that the accessory is loaded. The program version on the other hand is able to use all of the available memory as it is being run straight from the desktop. Scanlite is reasonably compatible with AutoSwitch OverScan, showing only a disturbance to the screen display when scanning, which does not affect the saved file. There is no trace of the remains of closed dialogue boxes that plague some other programs when using this hardware device. ScanLite is one of the few accessories that cannot be loaded with Chameleon.

Conclusions

ScanLite does not seem to offer much over the dedicated scanner program. Its permanent hogging of memory when run as an accessory may prove to be problematic when run on a less well-endowed ST. Against that it is quick and



SCANLITE Config

DPI 300

cm. 4

Time 7

i W B 0

△ Fig. 3: Some more configuration options, accessed through the "Config" box at the top of the main screen and savable via the appropriate button. One has the obvious purpose of choosing which scanner is to be used, which to my mind is superfluous since not many people will have two scanners - and certainly not ones of the same or similar quality. This would have been better chosen from the master configuration program, and would probably also have helped to save a few bytes of Ram space. The less obvious ones toggle between inch and centimetre readouts, choose whether compression is applied to the .IMG files resulting from scans, and whether a black or white background is to be shown. An unimportant option this may be, but it caused me a couple of moments' panic when I first loaded this program up and was confronted with a solid black screen! Once a scan is started it is displayed as a continuous circular scroll. Last but not least, the figure at the lower right may be used to specify in which colour scans are to be shown on a colour monitor. This is again purely cosmetic, for there is little support for colour .IMG files on the Atari platform so far as I know. It *is* entertaining to watch one's scan being displayed in red or blue though...

easy to use, especially where further editing beyond the capability of the usual scanner program is to be carried out, especially when that is the Pandaal software. And if you are lucky enough to own MegaPaint Pro it is a definite must. Try before you buy: I have submitted the demo version from the program disk to the ST Club for possible inclusion in the catalogue.

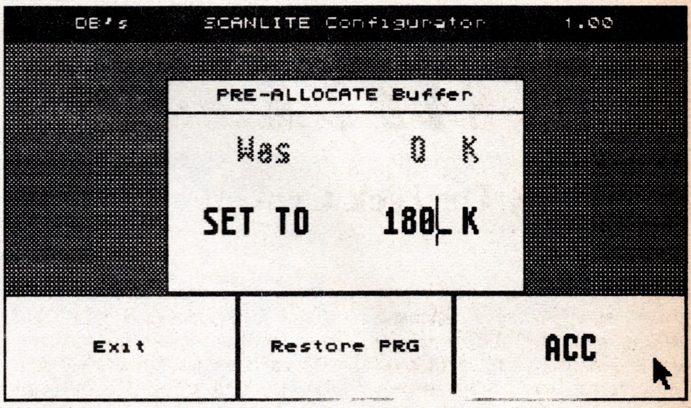
One final point. If you do not see your particular scanner - and as far as I know the Pandaal scanner refers to the cartridge based model rather than the latest which plugs into the printer port - included in those shown, then give Ladbroke a ring, as it may well be that there is a driver on its way.

Product:.........ScanLite
Supplier:........Ladbroke
Computing
International
33 Ormskirk Rd.
Preston
Lancs. PR1 2QP
Price:.............£20 + £3 P&P
Tel:................0772 203166
Fax:...............0772 561071

File Size

Scanned images can take a good deal of memory. This table shows how much memory (rounded up to the nearest 1K) you should allocate for a selection of various length scans at various DPI settings. The standard 4inch (105mm) scanner is assumed.

DPI	4in	6in	8in	10in
100	20K	30K	40K	49K
200	79K	118K	157K	196K
300	176K	264K	352K	440K
400	313K	469K	625K	782K



OB's SCANLITE Configurator 1.00

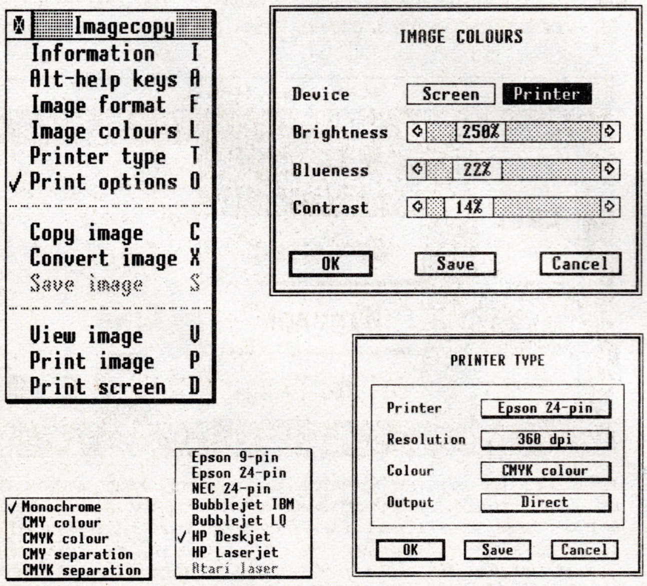
PRE-ALLOCATE Buffer

Was 0 K

SET TO 180 K

△ Fig.4: The separate master configuration program permits adjusting the buffer size as well as renaming to .ACC or .PRG, depending on which version is to be used. The standard Atari or replacement file selector allows the path of the program to be chosen, and after setting the required buffer size the "restore PRG" or "ACC" boxes save the changed setting straight back to the file, renaming it as required. Do not therefore have both versions in the same directory or you risk a crash! The accessory version will not be able to take advantage of the new buffer size until the system is rebooted, the figure shown being suitable for a 4 inch scan at 300dpi. The minimum amount can be either 64K or 0K - see main text for details. The box-out shows other buffer sizes against resolution and scan

Imagecopy Colour



Device: Screen [✓ Printer]
Brightness: 250%
Blueness: 22%
Contrast: 14%

Printer: Epson 24-pin
Resolution: 360 dpi
Colour: CMYK colour
Output: Direct

The latest version of Imagecopy allows you to print colour images on a dot-matrix or inkjet printer. Colour images can be printed in any of the standard printer resolutions, and colour quality can be adjusted to increase the brightness, blueness and contrast of an image. If you don't have a colour printer, Imagecopy can print colour separations which may be superimposed to produce a full-colour image. In addition, the colour facilities can be used to improve the print quality of colour images which are printed in black and white.

Resolution options have been extended to offer an extra resolution for 9-pin printers (72 dpi), and another extra resolution for 24-pin and LQ bubblejet printers (60 dpi). The Laserjet slot contains two extra resolutions (200 and 600 dpi). These should work with the new HP Laserjet 4 printer.

The Colour menu offers five choices: Monochrome, CMY colour, CMYK colour, CMY separation, and CMYK separation. The colour separation modes can be used to print full colour images from a monochrome printer.

Because images normally print darker than they are displayed on screen, you can use the Imagecopy brightness setting to compensate for this. If your printer information specifies a 'gamma correction value' you can convert this to a brightness setting. The brightness setting can also be used to improve the way that colour images are printed or displayed on a monochrome printer or monitor.

A Blueness setting is available to compensate for the fact that colour printers sometimes print blue with a purple tinge. The Contrast setting increases the contrast between light and dark colours.

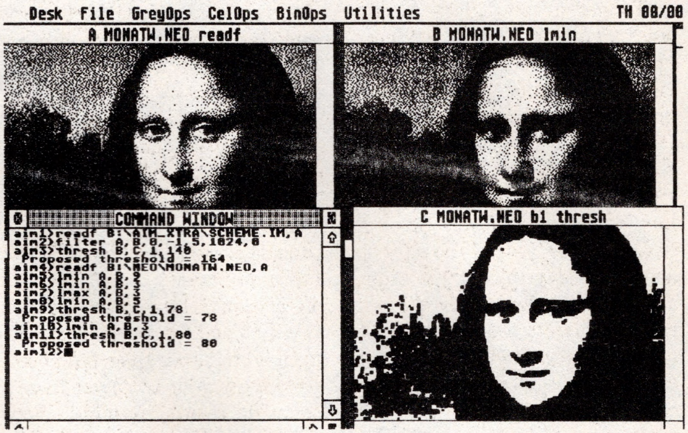
just
£14.95
Upgrade from Imagecopy - £4.95 and return master disk

The ST Club
2 Broadway
Nottingham
NG1 1PS
Phone (0602) 410241

AIM

Review by Sam Marshall

The Atari Image Manager (AIM) is one of those unusual applications that would probably never reach the outside world were it not for the marvellous mechanism of PD. It was developed at Delft University as a serious tool for pattern recognition research, but is distributed as "an entry level 'appetizer' for the art of image processing". What you get is a '1001 experiments' kit capable of producing lots of interesting results with a possible practical use within DTP.



```
aim1>readf B:\AIM_XTRA\SCHEME.IM,A
aim2>filter A,B,0,-1,5,1024,0
aim3>thresh B,C,1,140
 Proposed threshold = 164
aim4>readf B:\NEO\MONATW.NEO,A
aim5>lmin A,B,9
aim6>lmin A,B,3
aim7>lmax A,B,3
aim8>lmin A,B,5
aim9>thresh B,C,1,78
 Proposed threshold = 78
aim10>lmin A,B,3
aim11>thresh B,C,1,80
 Proposed threshold = 80
aim12>
```

Interesting effects can be created with normal artwork. a) The ubiquitous Mona Lisa picture converted by AIM from Neochrome format. b) The 'lmin' function emphasises the darker areas in an image. c) By taking the threshold the result looks just like a silhouette (well, almost !).

What's it all about then?

Image processing is a technology developed to manipulate and enhance digitised pictures. Important features can be hidden by (for example) blurring, uneven light, or noise (unwanted interference). Thus a range of techniques have evolved for extracting what you want to see - turning splodges into text and locating objects in the foggiest of photo's. A wide range of fields use image processing, including: medicine for X-ray and ultra-sound results, astronomy for satellite pictures, and robotics for the initial stages of machine vision systems.

Admittedly a way to reveal hidden detail in your your grannie's hip and thigh X-ray collection may not sound especially gripping, but the effects achievable from AIM can be pretty impressive, and when you get it right, very rewarding too. Moreover, if you scan clip art, or just want to create some 'special effects' in a piece of artwork, then AIM offers many unique facilities.

The Interface

Damn slick! The AIM environment is a delight to behold - it offers a combination of a well-implemented GEM system and a Unix-like command line (CLI). The program initially has 4 windows for displaying images, and one window for the CLI, plus the usual menu bar. Aim operates in both low and high resolution. The latter is far preferable, as things can be a little cramped in low rez. Some of the effects, however, are best seen in colour, so you'll just have to stoop for these.

The two input methods are smoothly integrated - in fact selections from menus are simply sent to the CLI by the system and interpreted as if typed. This is especially handy as AIM supports a 'history' of commands. Each new command is numbered and can be repeated in a range of ways. For example '!!' repeats the last command, '!23' repeats the 23rd command and '!thr' repeats the last command beginning 'thr'. This means that even if you prefer GEM, commands can easily be repeated without a long series of mouse operations.

The WIMP side is equally well done: clear dialogues, sensible defaults and intelligent control of active windows (start typing in a command and the CLI window automatically becomes active). Preferences can be set from a menu, and these, along with file paths etc., can be saved in a configuration file.

In addition, there is an on-line help facility giving a brief explanation of the syntax and purpose of each command. This is a little ungainly in GEM as the user is simply given a file selector showing a series of *.HLP entries, but works well from the CLI.

Something to put in it

AIM accepts images in Degas, Neochrome and its own special format. AIM's format uses 64KB per image (twice that of Degas or Neo). This is more information than can actually be displayed on screen (monochrome images can contain 256 greyscales, for example), so approximations have to be displayed. All data is, however, used in the calculations performed on the image, making operations on AIM pictures much more accurate.

AIM allows you to load any image in low or high resolution, using a reasonably effective dithering process to represent greyscales/colour. The standard image size is quite small - 128*128 pixels. The advantage of this is that two stages of processing can be seen side by side on a mono monitor, and in output terms is not so bad, as the Degas equivalent is considerably larger (to represent all that extra information).

Degas/Neochrome files can be converted to AIM format and vice-versa. Some information is lost in this process, but it does mean that you're not restricted to the sample files provided with the package. Handling of .IMG files would have been very useful - especially for DTP work, hence a good snapshot utility is invaluable. As far as I know, Calamus is the only application that recognises the AIM format (quirky beast that it is!).

Printing is limited to a screen dump of a particular window using either a 9 or 24 pin printer. Drivers are provided for only the former, though the manual gives detailed instructions on how to write new drivers. Apart from the ability to magnify output, this is one of AIM's weakest aspects, and importing the saved images into another package is likely to be necessary.

Documentation

Documentation for AIM comes in 2 text files - a 15-page Tutorial and a 30-page manual. Both are very well written, providing a wealth of technical detail. The tutorial also manages to be generally very readable, and conveys a great deal of enthusiasm for the topic. The user is guided through a series of examples to introduce a range of processes, then left with some further exercises to be performed on the images provided. Seeing the transformations which occur is a surprisingly satisfying thing, and you soon find yourself experimenting with all manner of parameters and operations to see what happens.

The reference manual explains each command, with syntax and examples. It also has a section on the 'families' of processes and when they might be appropriate. One criticism is that there seems to be a large gap between the 'complete novice' approach of the tutorial and the highly technical nature of the manual. A text book on image processing would certainly be needed to appreciate many of the operations that are available.

Anyone know how to use this thing?

So, you've loaded in an image: it looks a mess - all fuzzy and noisy. What to do? AIM offers a rich array of possibilities - over 130 different processes to filter out noise, remove shadows, enhance detail, smooth over detail, expand greyscale ranges, create binary images, detect lines, edges, intersections and even play 'LIFE' with the data! There is insufficient space to explain what these do - the whole point of AIM is to get people to play with them and see what happens. However, the figures below give some idea of the sort of things that AIM is capable of.

To get a satisfactory result, quite a number of steps will normally be involved - in figures 2(a) - 2(c), for example, the circuit diagram is gradually revealed by filtering out some of the noise, then converting it to a binary image to remove the intermediate greys. Further processing could be done to create an outline of the objects, and eventually AIM could automatically number each element and describe its properties. With appropriate software this data could then be used to 'recognize' each component - a full machine vision system!

The speed of AIM is 'fast enough' - most operations take 2-6 seconds, which can seem sluggish if you are purely experimenting, but considering the calculations involved is actually pretty impressive. (I've seen SUN workstations do worse!)

Any series of commands can be 'logged' and stored on disk as a macro (or macros can be written as ascii text and imported). This greatly simplifies some standard image processing operations, especially as AIM is capable of effectively calculating parameters for some operations from the properties of the input image. It is therefore quite feasible to batch process a set of images while you relax with a cuppa - you can tell it was written by academics!

For the beginner the range of possibilities is bewildering. The tutorial explains only a fraction of the commands, meaning that effects can be hit-and-miss. This is fine if all you want to do is experiment with the package, but potentially frustrating when you have a specific result in mind. Fortunately, by looking at the macros, you begin to get a feel of what are promising orders of operations and develop strategies of your own. This takes time, of course, but on the other hand it reflects the fact that AIM has an awful lot to keep you interested.

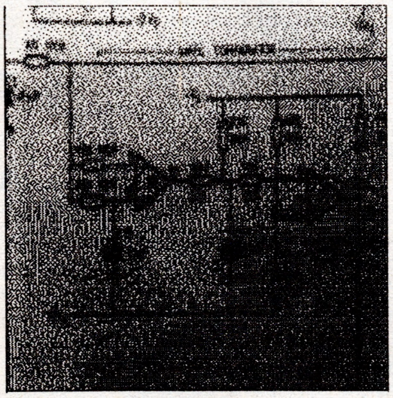
If you already have some experience of image processing then the comprehensive nature of AIM is immediately apparent. It may take a while to 'translate' terminology, but just about all of the common processes are there including gaussian filters, Robert's, Sobel and contour operations. More complex line and shape detection is missing, though to be fair this would be getting more into the domain of object recognition anyway.

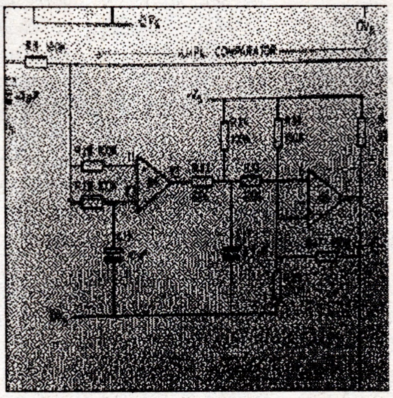
What use is it to me?

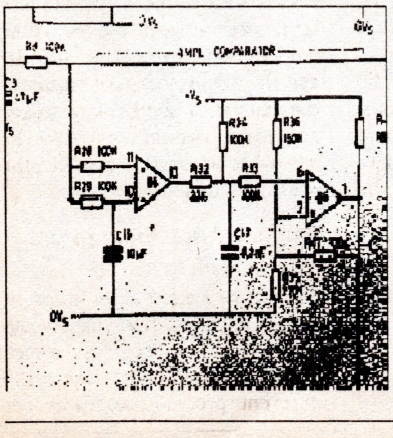
AIM is perfectly capable of some very sophisticated image processing, though I suspect that the bulk of its facilities will not be used by most people - some being highly esoteric. However, if you wish to explore image manipulation in depth, you can go a long way with AIM. For those with only a passing interest, the program is sufficiently well documented to allow take you on a very enjoyable exploration of the field, and teach you a fair few things about computer images in general. Finally, AIM will probably appeal to people looking to add something a little different to their DTP. The facilities for removing noise could prove very useful for tidying up scanned art, and some attractive effects can certainly be created. It should be noted, however, that AIM was never intended for this purpose, and it is likely that unless you also wish to learn about image processing in general, producing usable clip art will prove a frustrating and time-consuming process.

Make your mind up time

AIM is an outstanding example of what good PD can be - a specialist application made available to everyone, coupled with high-quality documentation and an interface that is a delight to use. There are many commercial offerings that could learn from such a polished presentation. For the price of a disk it's a gift - go on, try changing your image!







Three stages in processing a poor-quality image of a circuit diagram. Top: The original picture; Centre: after applying a noise filter; Bottom: after thresholding to produce a binary image. If enlarged some of the original's grey blobs are now legible text - almost spooky huh?

Conclusions

Points for:

- ✓ Huge number of functions available
- ✓ Excellent interface
- ✓ Comprehensive documentation

Points against:

- ✘ Poor printer support
- ✘ An UNDO facility would be very useful
- ✘ Occasional crashes with STE's

Whilst some art packages offer a few functions similar to those in AIM, none come close to its image processing power. A very interesting and unusual program.

Product:...... **Atari Image Manager**
Version:.........2.51 (1988)
Authors:.........Frans Groen, Robert de Vries
Manifest:........Distribution files include a 15 page tutorial, 30 page manual and a variety of test images and macros.
Available:......ST Club disk GRA.22: AIM v2.51 + Mono demos
GRA.23: AIM v2.51 + Colour Demos
GRA.24: AIM Macro Demos
System:..........1 Megabyte ST with D/S drive. Low or High resolution display (mono monitor strongly recommended). Not altogether stable with STE - beware! Supports 9 and 24-pin printers only.

JANET users can obtain v2.51 from uk.ac.hensa.micros ftp archive (previously lancs.pdsoft).

Desktop Publishing with the Atari ST

Part Three: Page Design

Günter Minnerup

Following our general discussion of the various approaches to printed output last month, it is now time to consider our practical projects in more detail in order to tackle the next step: page design. The word "page" can have two meanings, depending on whether you look at it from the design or from the output point of view. To produce a business card, for example, you are working with a design "page" roughly the size of a credit card - 8x5 centimetres or so. But since it would be rather wasteful to print one card at a time on a laser printer using A4 sheets, you will probably copy the card design several times and end up with a document "page" containing 8 or 10 of them, to be separated later with the aid of a guillotine. If, on the other hand, the cards are to be professionally printed and laser resolution is not sufficient (perhaps your card features a photograph of yourself which you naturally want to be as sharp as possible), you might as well just send the one single design to the imagesetter as its duplication can then be left to the platemaking stage to fit the size of the printer's sheets. The latter can be imagined as yet another incarnation of the "page": most printing machines can print between 8 and 32 A4 pages on one sheet, and their arrangement is best left to the printer who knows all about the problems of what is known as "imposition".

We are therefore confronted with three different sets of dimensions that need to be taken into account when embarking on a DTP job: the designed page area, the printed output page area for the camera-ready copy, and the size of the printed sheets. The last of these is only really relevant for desktop publishers to avoid unnecessary wastage: as long as you stick to the standard A4, A5, etc., you should have nothing to worry about. A far more important consideration is the relationship between the first two, the design and the output page sizes.

Take a magazine page, for example. Even if this is output at A4 on a laser printer, there are several complications in calculating the design area. For a start, laser printers cannot cover the entire A4 sheet but always leave a margin of somewhere between 0.5 and 1cm. With Atari lasers, this reduces the effective A4 design area to precisely 195.6x286.5 millimetres. But text never actually goes right against the edge of the printable area, so you need to decide on a margin all around the text column or columns - usually more at the top and bottom than the sides. This margin nevertheless remains part of the design area, as some page elements may well go right up to the physical edge, such as ruler lines or pictures. These are called "bleeds". To let the printer know where exactly the edges of the finished product are to be located, camera-ready copy usually incorporates "crop marks" indicating "cut here". Your text columns therefore fit into an area which is calculated as the physical paper size minus the unprintable area minus the margins between the crop marks and the text.

All the major DTP packages let you define the physical output page size to anything you want in addition to offering several standard settings. But crop marks are a different matter: Didot Professional, Calamus SL and PageStream do, whereas Fleet Street Publisher and Calamus S don't, for example. This does not really matter as it is easy to draw your own crop marks in any pixel or vector art program and import these into your master pages. The same goes for "registration marks": these are mainly used for the alignment of colour separations but can also help arrange monochrome pages at the platemaking stage.

Now to our projects. For the business stationery - letterhead, compliment slip, business card, invoice form - laser quality is quite sufficient, and for the magazine, it will just have to do for cost reasons (remember we're talking about ST Applications, not Vogue!). But whereas the business cards and the compliment slips are actually to be printed on a laser in batches as required, the letterhead, invoice form and of course the magazine will be output as camera-ready copy for a commercial printer. The book is to be sent as a PostScript file to a typesetting bureau. The screenshots accompanying this article show the page dimensions arrived at, and the captions explain the calculations behind them.

The next step is to decide on a page grid. Most amateur practitioners of desktop publishing neglect this stage, placing one or more text columns and any graphics more or less randomly in the area left after the definition of the margins. Sometimes this works, of course, but it is very much a hit-and-miss affair. The way the human eye perceives beauty has much to do with proportions, and a visually pleasing printed page is no exception. The absolute dimensions of the page are less important than the proportional relationships between its various elements, and in multi-page publications there is also the need for consistency between the pages. To achieve both pleasing proportions and consistency, the professionals start the process of page design with a "grid", an ensemble of vertical and horizontal guide lines superimposed on the available design area. A grid can be as simple or as complex as you like, from a straightforward rectangle to hold single column text to a structure providing for different columns on different pages and a variety of picture placements.

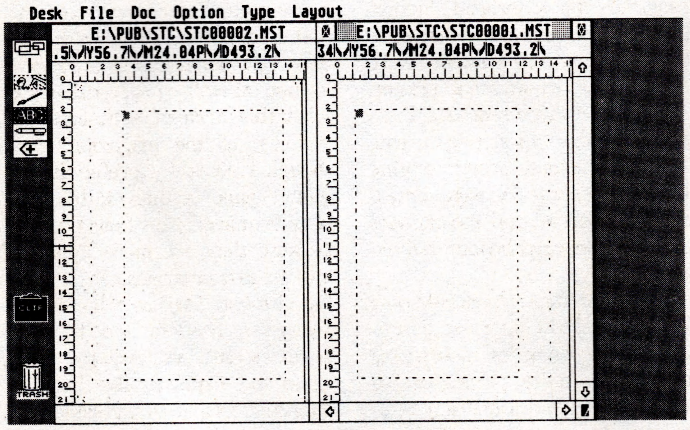
The main initial considerations when designing a grid are the number of vertical columns and the page alignment - symmetric or asymmetric, centred or aligned to the left or right. For magazines, for example, a popular grid consists of three or four columns centred on the page, like ST Applications today. This gives great flexibility for breaking the monotony by running illustrations and boxes across two or three columns and is easy to handle because left and right pages can be swapped around at will so we shall stick with this arrangement for our redesign of the magazine even though I generally prefer asymmetric page layouts with extra outside margins on facing pages because they are more dynamic and the extra margins can be used for elements such as folios (page numbers), headers and footers, headings and subheadings, pictures and captions. But for the magazine simplicity and economy are paramount and I can always indulge in my asymmetric leanings with the book, which is unlikely to have pages reshuffled at any point and where therefore the rigid left-right distinction imposed by asymmetric design is less likely to cause problems.

You might think that the business stationery does not really require a grid, especially the business card, compliment slip and letterhead where the design area is quite small, but you would be wrong. Even the smallest (postage stamp) and simplest ("No entry" sign) job benefits from a clearly defined proportionality and balance and if you spend some time studying professionally designed business cards and letterheads, for example, you will find that nothing on them is arranged completely arbitrarily. Chances are that there is an underlying grid structure, even if the finished design breaks with the rigidity of horizontal and vertical divisions, thus disguising the grid structure. Grids should in any case never be regarded as straitjackets but as guides: if they are not immediately obvious to even the untrained eye because some headings and illustrations have been craftily positioned to break out of the grid, very good. But to break rules creatively you still need to have rules in the first place.

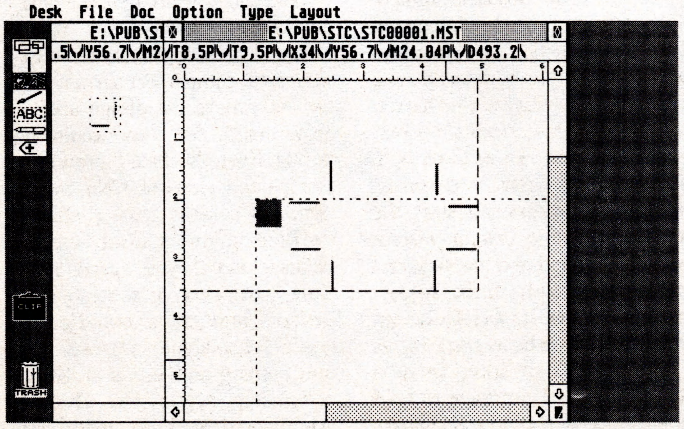
The grid, of course, has important typographical ramifications. The more columns, for example, the shorter the text lines will have to be and therefore the smaller the point size. Short lines are more difficult to justify and increase hyphenation problems, too. This shows how different stages of the design process are actually intertwined and cannot be treated strictly in sequential stages to be tackled one after the other - we should, of course, already have had the grid structure in mind when defining the page margins earlier - but for the purposes of this series of articles it helps to pretend that this can be done to enable us to study each aspect separately.

Finally this month, the relationship between the grid and the "magnetic" guides offered by most DTP software. For an accurate placing of page elements at screen resolutions, visual control is often too inaccurate and the "snap to" functions are a real boon. The more flexible they are, the better: ideally, you want to be able to define a snap range so that items deliberately placed a certain distance away from the guides are not affected, and most of the time it helps if the actual grid is non-magnetic and serves only as a visual guide, with magnetic guides superimposed on it where it really matters (text column placements, for example).

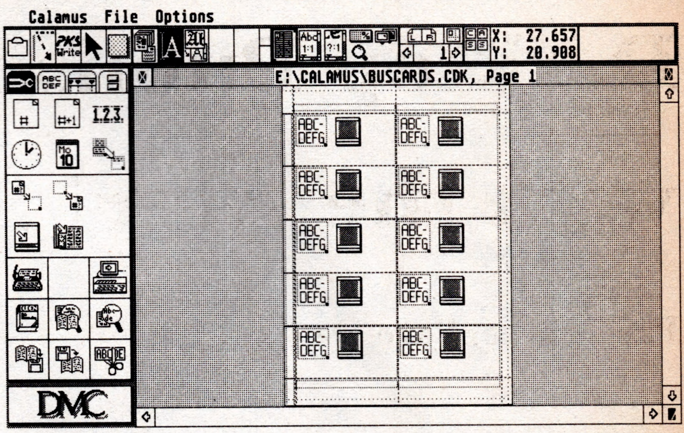
Next month: Basic typographical considerations.



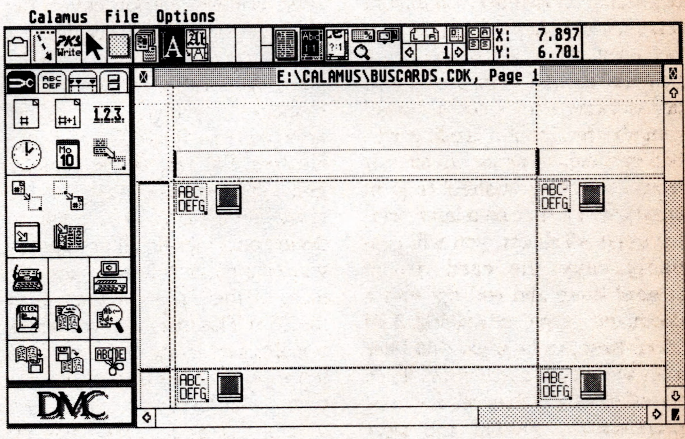
For the book project, a decision has been made to go for an A5 format and a single-column, asymmetrical layout with a fairly generous outside margin for illustrations, notes, etc. Since the book is going to be output as a PostScript file for a typesetter, the "A4 to A5 reduction" trick which gives improved resolution with lasers is not necessary. The precise dimensions of the text column are to be settled in conjunction with the typographical solutions to be discussed next month.



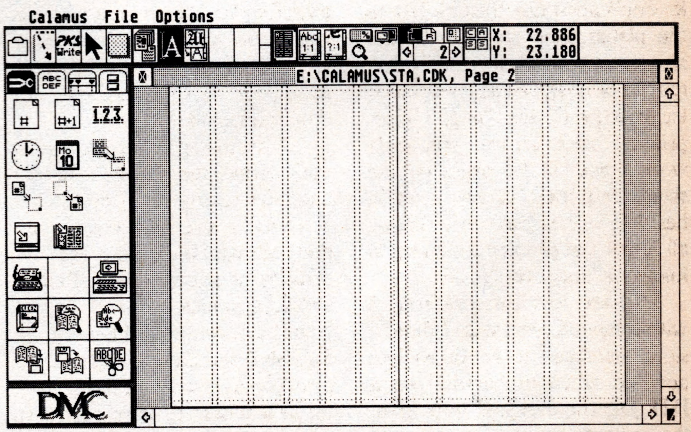
Since Fleet Street Publisher's drawing features are rather primitive - in stark contrast to its typographical sophistication which persuaded us to choose it for the book - the crop marks were prepared in Didot and then exported as a simple IMG bit image file for use on the Fleet Street master pages.



Since the business cards are to be finally printed on the in-house laser and then cut with a guillotine, the more of the 8 by 5 centimetre layouts can be fitted onto an A4 page the better. In Calamus, the "virtual copy" function can be used to copy the first business card frame over the rest of the page - any alterations made to the original will then be automatically applied to all the copies. Alternatively, of course, you can finish the design first and then copy it seven times!



Crop marks are required to guide the guillotine for clean and even cut edges - since the current version of Calamus S, used here, does not support crop marks they have been manually created by drawing appropriate lines. Much the same approach can be used for the compliment slips.



For the magazine, a straight double-page A4 format is chosen and the margins are set at 1 cm all round. This is still a provisional grid as much of the detail will depend on typographical choices made. For this reason, too, the grid has no horizontal divisions yet as these will depend on the type size and leading specified. The only real decision already firmly taken is the vertical division into six columns with 0.5 cm gutters between them, giving sufficient flexibility for both two and three-column layouts.

Beginners' Forum

Mark Baines

Disk Structure

We all have problems with floppy disks at some time. Some of those difficulties arise from a lack of understanding and user abuse, others are due to software crashes and incompatibilities. In preparation for some future articles I have in mind, I'll start by clearing away some of that inevitable jargon and describe the structure of a disk.

The hardware

3.5" floppy disks are constructed of a thin sheet of Mylar coated with a magnetizable surface and held within a rigid plastic case which provides access to the disk via a movable steel shutter. The centre of the disk is attached to a metal hub which is taken up by the disk drive and rotated at 300 rpm. The drive has two read/write heads, one for each surface, which are not too dissimilar to those found in tape recorders. The ST has a track to track access time of 3 ms and a data transfer rate of 250 Kbits per second. That is, the time taken to move the heads from one track to the next is 3 ms and the speed of sending the data to the surface is 250 Kbits per second, a Kbit being 1024 bits.

The software - formatting

Before a disk can be used it has to be initialised or formatted. This process consists of checking the disk surface for defects and preparing a number of tracks and sectors with identifying and control data on each track so that they can be found and recognized. Details as to the nature of the format are also written to the first sector.

A track is a thin path on the magnetizable surface where data can be written. It is not a physical path as in an LP record but a line of magnetism bounded by a pattern of 'zeros' on either side, their location depending on the relative position of the read/write heads to the disk surface. They are arranged concentrically, the normal GEMDOS standard having 80 tracks with track 0 on the outside and track 79 nearest the centre. The disk is also divided radially into sectors, normally 9, numbered 1 to 9. A sector is therefore the smallest unit of any track that can be accessed directly by the hardware of the disk unit. So, each of the 80 tracks consist of 9 sectors, forming 'pie-slice' shaped divisions on the disk surface. See Figure 1.

Table 1: Disk Formats

Single-sided:	
Track 0, Sector 1	Boot Sector
Track 0, Sector 2 - 6	FAT 1
Track 0, Sector 7 - Track 1, Sector 2	FAT 2
Track 1, Sector 3 - 9	Directory
Track 2 - Track 79	File data
Double-sided:	
Side A, Track 0, Sector 1	Boot Sector
Side A, Track 0, Sector 2 - 6	FAT 1
Side A, Track 0, Sector 7 - 9 and Side B, Track 0, Sector 1 - 2	FAT 2
Side B, Track 0, Sector 3 - 9	Directory
Side A and B, Track 1 - Track 79	File data

Tracks and sectors on single-sided and double-sided disks are arranged as in Table 1. A double-sided disk has 80 tracks with 9 sectors per track on each side of the disk.

Each sector holds a maximum of 512 bytes of data. However, to TOS the smallest storage unit is a cluster which consist of 2 sectors. A cluster may only be allocated to one file, so that if a file does not fill the whole 1024 bytes of a cluster, the excess remains empty and unusable. For instance, ten Degas fill pattern files, normally 64 bytes each, would take up the disk space equivalent to 10,240 bytes rather than 640 bytes! Larger files are obviously stored more efficiently but the last cluster of any file will always be partly empty and unused.

Non-standard disk formats are common on the ST, where an increase in the number of tracks or sectors achieves a greater capacity. Using 10 sectors per track is generally safe and portable between computers. Going beyond that (14 has been tried) is generally not recommended because the quality of disk drives and disks varies so much. What may work for you today may not in a year when the disk drive wears and the heads become misaligned. The same applies to sectors. Up to 86 sectors per track has been tried but generally a mechanical stop in the drive unit itself normally prevents the read/write heads from going too far towards the centre of the disk. Some people have even been known to file this down! Using software to move the head too far inwards will result in rather unpleasant noises coming from the disk drive and may force the heads out of alignment. Again, 1 or 2 extra sectors per track may be acceptable, any more is definitely not recommended. 80 tracks with 10 sectors is universally reliable.

At the time of format the disk can be given a volume name which has the same form as a file name and stored on the disk at the beginning of the directory sectors - track 0, sector 3 on a double-sided disk. This can help to identify a disk's contents. Note that NeoDesk stores its volume name as a separate hidden file of 21 bytes.

Most of us use Double Density disks. This refers to the number of bits of data that can be recorded per unit of length of track. Double density disks doubled that found on single density disks which no one uses today, providing around 720KB of storage depending on the format. High Density disks are fitted as standard to later Mega STEs, TTs and to Falcons. These double the density of data again, giving a capacity of 1.44MB or more. To achieve this the Floppy Disk Controller (FDC) chip needs to operate twice as fast, at 16 MHz, and this is only reliable on the faster 16MHz 68000 or 68030 fitted computers especially with TOS 2.06 and 3.06. Some PCs are being fitted with Extra Density disk drives giving 2.88MB. We won't see these on Atari computers for a while, although the 16MHz FDC is reputedly capable of handling them.

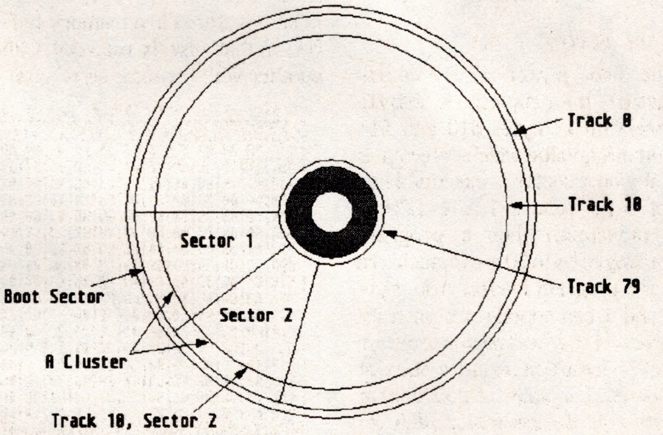


Figure 1. The virtual structure of a floppy disk's surface, showing the possible positions of some tracks and sectors.

Bios Parameter Block

When formatting is finished, TOS writes the BPB or Bios Parameter

Table 2

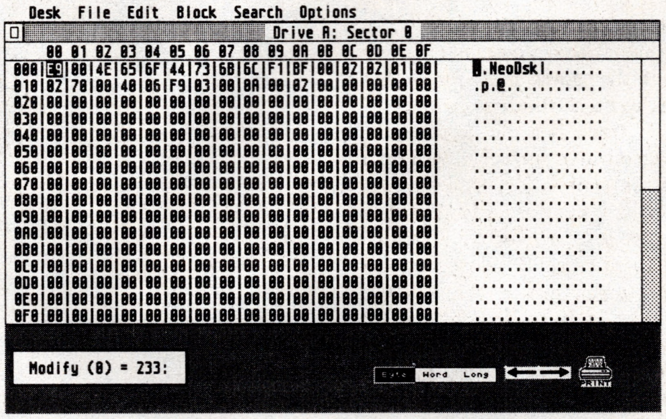
Variable	Explanation	Value
short recsiz	Sector size in bytes	512
short clsiz	Cluster size in sectors	2
short clsizb	Cluster size in bytes	1024
short rdlen	Directory length in sectors	7
short fsiz	FAT size in sectors	5
short fatrec	Sector number of the second FAT	6
short datrec	Sector number of the first data cluster	18
short numcl	Number of data clusters on the disk	711
short bflags	bit 0=1 then use 16 bit FAT, else 12 bit	

Block to the disk. This is a data structure in the boot sector (Track 0, Sector 1) containing information on how the disk is formatted and its capacity. When the desktop or other program accesses a disk it needs this information so that it knows how much data can be stored and where. The BPB contents are listed in Table 2. The values at the right are for a standard double-sided disk and each variable is 16-bits long.

Boot Sector

The boot sector also contains further information. A 2-byte checksum at bytes 510 and 511 contains a value which determines if the boot sector is executable or not. If the value is $1234 (1234 in hexadecimal) then a program starting at byte 30 is run, such as a game program loader. Also, byte 0 and 1 can contain a branch instruction to a boot sector program which doesn't necessarily start at byte 30. The value of $60 (hex) at byte 0 is the assembler BRA instruction. The next byte contains the program start offset, i.e. a value of 2A means go to 2A (42) bytes further on in the boot sector. The boot sector has enough room for a 480 byte program between bytes 30 and 509 inclusive. TOS 1.4 and later ensured that floppy disks were formatted to be MS-DOS compatible by having the hex values E9 00 4E in the first 3 bytes. The use of these bytes excludes bootability, of course.

Bytes 2 to 7 can contain various things, traditionally the word "LOADER" if executable or "NNNNNN" if formatted by the GEM Desktop. Quite often we find the name of a third-party formatting program, so that disks formatted under NeoDesk contain "Neodsk" here. Bytes 8 to 10 contain the 24-bit serial number in hex which is randomly chosen and written to the disk when it is formatted. It is checked by TOS whenever a disk is placed into the drive. If TOS suspects that a disk has been changed, it checks the serial number before writing to the disk assuming that it is the same disk if the serial number matches. It is important, therefore, that third party floppy disk formatters correctly provide random and unique serial numbers for disks. Unfortunately, many still exist which do not and this can cause the complete loss of a disk's data if its replacement in a drive has been undetected. When a disk is accessed its FAT data (see below) is stored in a memory buffer. If that disk is replaced with another with the same serial number, the original disk's FAT is copied back to the disk when a file is saved which, bearing no resemblance to the second disk's contents, corrupts it.



```
    00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F
000|E9|00|4E|65|6F|44|73|6B|6C|F1|BF|00|02|02|01|00|    .NeoDskl.......
010|02|70|00|40|06|F9|03|00|0A|00|02|00|00|00|00|00|    .p.@...........
020|00|00|00|00|00|00|00|00|00|00|00|00|00|00|00|00|    ...............
030|00|00|00|00|00|00|00|00|00|00|00|00|00|00|00|00|    ...............
040|00|00|00|00|00|00|00|00|00|00|00|00|00|00|00|00|    ...............
050|00|00|00|00|00|00|00|00|00|00|00|00|00|00|00|00|    ...............
060|00|00|00|00|00|00|00|00|00|00|00|00|00|00|00|00|    ...............
070|00|00|00|00|00|00|00|00|00|00|00|00|00|00|00|00|    ...............
080|00|00|00|00|00|00|00|00|00|00|00|00|00|00|00|00|    ...............
090|00|00|00|00|00|00|00|00|00|00|00|00|00|00|00|00|    ...............
0A0|00|00|00|00|00|00|00|00|00|00|00|00|00|00|00|00|    ...............
0B0|00|00|00|00|00|00|00|00|00|00|00|00|00|00|00|00|    ...............
0C0|00|00|00|00|00|00|00|00|00|00|00|00|00|00|00|00|    ...............
0D0|00|00|00|00|00|00|00|00|00|00|00|00|00|00|00|00|    ...............
0E0|00|00|00|00|00|00|00|00|00|00|00|00|00|00|00|00|    ...............
0F0|00|00|00|00|00|00|00|00|00|00|00|00|00|00|00|00|    ...............

Modify (0) = 233:
```

Figure 2. A floppy disk's boot sector displayed with hex bytes on the left and ASCII values on the right. Note the name of the disk's formatter in bytes 02-07 and the absence of any boot sector program by the zero bytes from 1E onwards.

In addition to the BPB, there are a few other disk construction details. Table 3 is a description of the boot sector. The values shown are for a 80 track, 9 sector double-sided disk.

FAT and Directory Sectors

The File Allocation Table or FAT is a data structure representing a map of all the disk's clusters so that TOS knows where to look for a certain file. Under GEMDOS, each entry is a 12-bit number which does one of several things. It can point to the next cluster of a file, it can indicate whether it is the last cluster of the chain or whether that cluster is free or bad. In this way, each file on disk is represented in the FAT by a chain of cluster numbers. GEMDOS keeps two copies of the FAT on each disk in case the main one becomes corrupted. With the right software, such as Diamond Edge, FAT 1 can be replaced by FAT 2 assuming that FAT 2 is intact.

The directory sectors are those containing the list of files and subdirectories in the root directory of that disk. Each entry contains the name of the file, its date and time of last change, its size in bytes and the number of the first disk cluster of data for that file. With this list and the chain of clusters designated in the FAT, TOS has everything it needs to find a file.

Using a disk editor, such as BED or ST Tools, these sectors can be looked at. ST Tools will show you a list of the clusters in a FAT as well. Only do this with a floppy disk of no importance and don't play around with a hard disk's boot sector, FAT or directory sectors unless you know - 110% - what you are doing. There are also many programs which can display a disk's format and BPB details. Try DSKCHK2 which should be on DMG.35.

Figure 2 shows BED's display of the first half of a boot sector. With the information provided above you should be able to decipher the numbers. Remember that they are in hexadecimal. The boot sector is compatible with MS-DOS so pairs of bytes are in the Intel format, a reversed form where the low byte is first and the high byte is second (except bytes 2 - 10). So, in any pair of bytes the right-hand one comes before the left one. For instance, bytes 17 and 18 (second row, columns 01 and 02) appear as 70 00 but are read as 00 70 which in decimal means 112, the maximum number of directory entries. With a hexadecimal to decimal calculator or table (try looking in your printer manual for an ASCII character table) make a point of analysing bytes 11 to 29. Are they the same as in the table above? What format has this disk got?

If you can think of anything that I ought to cover in this column then send me a letter, but please remember that I cannot deal with specific program and hardware problems unless it appears to be of common interest. Thank you for the letters received so far. Although I can't promise to respond to all personal queries, I'll do my best. An SAE certainly helps!

Mark S Baines
Beginners' Forum
Linnhe, Shore Street
Inver, by Tain
Ross-shire IV20 1SF

Table 3

Byte	Item	Value
0 - 1	Boot program branch instruction if executable	
2 - 7	'Loader" or third party formatter name	
8 - 10	24-bit serial number	
11 - 12	Sector size in bytes	512
13	Cluster size in sectors	2
14 - 15	Number of reserved sectors inc. boot	1
16	Number of file allocation tables	2
17 - 18	Maximum number of directory entries	112
19 - 20	Total number of sectors	1440
21	Media descriptor byte (not used)	249
22 - 23	FAT size in sectors	5
24 - 25	Number of sectors in each track	9
26 - 27	Number of sides	2
28 - 29	Number of hidden sectors	0
30 - 509	Available for short boot program	
510 - 511	Executable checksum flag	

Grafix Arts

In this month's graphics column Paul Keller looks at the utilisation of reflections in our pictures, and in so doing helps the computer artist get more life and interest into his/her compositions.

TECHNIQUE – Reflections

This occurs where rays of light are thrown back, usually creating a mirror image of the subject, some of the best examples of reflections being those of water, mirror and glass.

Light reflections of lesser detail occur with everything we see in the world around us, and the way we see depends on this. To the computer artist reflections can be both challenging and fun to reproduce, and when properly utilised their inclusion in any picture adds greater depth and detail.

It is this very utilisation of reflections in our artistic pictures which we are looking at in this month's article, and in so doing I hope to help the computer artist get more life and interest into his/her composition.

Water reflections

All of us computer artists have an advantage over the traditional painter and his medium in that we can experiment quickly and UNDO any unwanted effects. This experimentation means a greater flexibility and freedom in any of these creations we might make.

This flexibility is gained by use of the sophisticated distort tools available in the programmes we use, and these are found in almost all of the commercial computer art packages on sale today.

You are not restricted to any one distort tool either; it is easy to apply many of the differing distortion tools over different sections of the same piece of work.

Some valuable advice to the beginner in computer art might be to always save your work before experimenting. It is also best to make a copy of your work onto another work screen, and if available memory permits you can keep several contrasting ideas in the computer at the same time so that you can view at your leisure the best of your ideal working combinations.

With water reflections you will have to use the mirror tool as a pre-requisite. You may also find that this mirrored image has to be stretched or shrunk in some way. Another prime requisite for any water reflections is a slight change of colour. You can make your reflections of either a lighter or darker shade, depending on the lighting condition of your picture scene. This definitely adds interest to any picture containing water composition, especially slow-flowing rivers or lakes. If you have ripples in your water source, such as those found in a river, then this will mean some further distortion being applied to your water reflection. At the faster points of your river the reflection will be barely (if at all) perceivable, while the stiller sections will allow a more visible reflection of your subject.

The sine wave is a good tool for some water reflections, mainly being better suited to larger areas. But whichever tool you use you will find that experimenting with each one and its effects will help to give you a better 'feel'. Moreover, you can easily cut sections from one picture copy and place them over a different section of your working picture. If doing this be careful that your picture reflection keeps some basis to its source; cutting and pasting in this way is best suited for a reflection which contains much of the same substance and is not too varied in its overall composition - e.g. just trees and bushes.

Mirrors

By simple use of the 'mirror' tool any mirror reflections are made quickly and easily. However, a little touching up is sometimes preferable to simply leaving it as a straight mirror image.

A good special effect which can be used on mirrors is the use of a 45 degree line. This is a method of simply placing a few of these lines over your mirror, forming a more glass-like feel and look to your image. A light blue line is best, with a shadow directly underneath to that of the mirror's colour. Although this may look odd in some situations in can be very useful in others, and so, as always, experimentation has its place.

Special effects

Sometimes it is good to add reflections to make your picture more pronounced even when they might not normally be so pronounced. Such a case in question is the human eye and the window reflection you often see used to give emphasis on its curved shape.

This type of effect, by adding reflections which might not in reality be in your picture, can be applied to colours also. A good example of this is red being used as a warm colour and blue as a cold colour. A picture that consists predominantly of red hues feels warmer than one made of blue. It is easy to accentuate this therefore by adding more blue or red hues to the colours in your picture using the RGB colour sliders within your art package.

Reflections can be coloured differently to give other effects too. Magenta with black can give an impression of something magical, while green with yellow gives an earthy atmosphere. Careful planning of your colour palette will be needed if you wish to add these more complex but subtle uses of colour in any of your computer pictures. To change a reflection as opposed to its original the airbrush tool is very useful. By spraying slowly over the reflected section with the background colour of this area you will make the image slightly less distinct than its original. This of course will mean that it can be recognised more readily as a reflection and not simply a copy or solely as a mirror image.

Mist effects can be difficult and are best handled with a very light colour contrasting palette. The use of a de-focus or smear tool will help you to create such effects as a misty haze or fog. Lightning effects can be normally terrific when converted to your computer. The bolt itself is best made with a white line and use of an outline tool on this. With a range of blues, work out from your white line, outlining each outline in a darker shade. Any silhouette shapes below can be made white instead of black for maximum contrast effect.

Next Month: Expression

TOOLS – Colour Cycling

Colour cycling is the shifting of a colour range one colour at a time in a right or left direction and in a cyclic formation.

It has several very useful functions, not all of which are used by computer artists. If you only like to draw static pictures and animation is of no interest to you then its main use would be as a palette shifter.

By this I mean you can move the whole colour range through the colours within your cycle group to generate more psychedelic effects. Shifting the palette before you begin any work can help you sort out some kind of logical order of your colours. To make best effect of your palette for use with the colour cycle command you need to keep your colours grouped, e.g. greens all together in order of contrast.

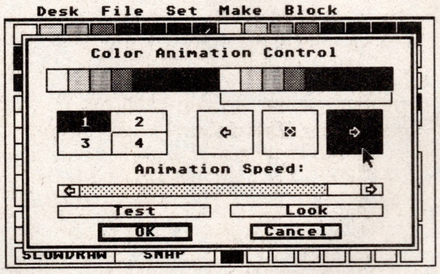
The better drawing packages such as Degas Elite can use colour cycle in combination with other tools. This means very interesting special effects can be generated quickly and easily.

Tools such as draw, frame, airbrush, box, circle and others can use each of the cycle palette colours in turn with each mouse click.

Animation

Movement flow is one of the most effective colour cycle techniques, a good example of which is the 'waterfall demo'. Created with 'Degas Elite' and using colour cycling to give the illusion of movement, the effect is almost hypnotic. 'Degas' can have up to four palette cycles within a picture, moving either way and each with its own speed. This means a maximum of four colours to each cycle palette if using all four cycle groups.

As a basic animation tool, then, the colour cycle method is a quick and easy method, especially for the beginner new to any such animation techniques. It could be used to give the illusion of objects moving by masking the object to the background. An example would be a palette cycle of 8 colours, one of these being red and the rest the same as the background colour, e.g. black. Now if in our example illustration we wished an arrow to move from one side of the screen to the other we do the following:



First, making sure the red is the first colour in the cycle palette, then with a left to right movement cycle flow, eight frames relating to the eight colours of our cycle group need to be placed across the screen.

These eight arrows would then correspond to the eight colours of our cycle palette in order of movement flow.

When the cycle is switched on all the colours are shifted through the arrows but you can only see the red colour moving, and hence the illusion of movement.

Next Month: Outline

LAST WORDS

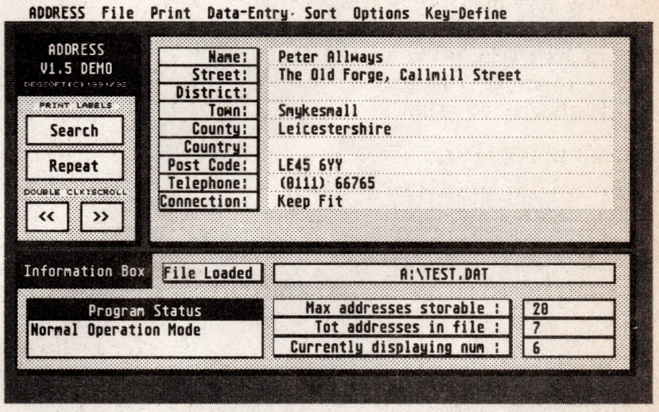
"Sculpting is the art of taking away material."

Michelangelo

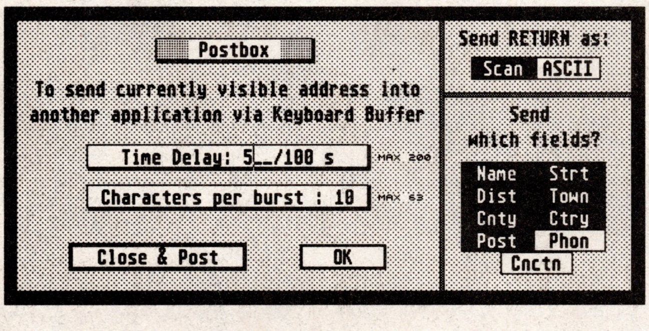
Address v1.6

Dedicated Address and Telephone Book

Full GEM-based address book program with fully configurable label printing, telephone lists, and envelope printing options. Good search and sort facilities. Comes with Address.Acc - which gives window-based access to the database when in other GEM programs. ACC will time telephone calls, send addresses directly into wordprocessor documents, has definable printer macro buttons, and lots more.



Name: Peter Allways
Street: The Old Forge, Callmill Street
District:
Town: Smykesmall
County: Leicestershire
Country:
Post Code: LE45 6YY
Telephone: (0111) 66765
Connection: Keep Fit
File Loaded A:\TEST.DAT
Program Status
Normal Operation Mode
Max addresses storable : 20
Tot addresses in file : 7
Currently displaying num : 6



To send currently visible address into another application via Keyboard Buffer
Time Delay: 5__/100 s MAX 200
Characters per burst : 10 MAX 63
Send RETURN as: Scan ASCII
Send which fields?

Features:

- ➤ Store as many addresses in the file as your disk/memory will allow and have as many different files as you wish.
- ➤ Easily update, delete or add new addresses.
- ➤ Sort the address book by a two-field sort system to put the addresses into any specific order required.
- ➤ Use the Function keys as preset keywords, such as commonly used town name to speed up ADDRESS entry.
- ➤ Auto load an address file when the program is loaded.
- ➤ Print out addresses onto envelopes.
- ➤ Print out on labels - 1, 2, or 3 across the web. Label layout is fully configurable. You choose which addresses to print by using the Search feature.
- ➤ Produce a telephone list.
- ➤ Dial telephone numbers with a modem.
- ➤ Keyboard short cuts for most menu options, making the program a breeze to use.
- ➤ With the accessory you can call up an address whilst in any other GEM application (eg. to print out addresses or telephone someone).
- ➤ In the accessory you can use the in built timer to time a telephone call and keep a running total of call charges.
- ➤ In the accessory you have the printer macro buttons - 12 programmable buttons you can define to select different features on your printer. You are not limited to just Epson printers.
- ➤ 'Flying Default' feature in the accessory means that the Return key changes its use according to what is the most likely next choice.

degsoft
software

Price, complete with two printed manuals:
£12.95

The ST Club
2 Broadway
Nottingham
NG1 1PS

Superbase Personal Tutorial - Part Four

Queries

The final part of Mark Baines's Superbase Personal Tutorial looks at the Query function and how to make Reports from your data file(s).

The Query function is, according to the manual, "the heart of Superbase". With it, you can produce formatted output from one or more files onto the screen, paper, to an ASCII disk file or a new database file. There is a high degree of control of the selection and arrangement of the record data with totalling, subtotalling, averages and counts for any field in the report.

As before, thorough preparation is necessary in designing a report. It is easy to construct an inaccurate Report output and believe it to be genuine. Using the STAPPS database on the disk magazine DMG.33 we are going to construct a report that will detail the Article Authors in alphabetical order together with their articles, with a count of these and the overall total. With the STAPPS database open, click on Process menu and the Query item (Fig 1).

The Title field can hold up to 80 characters for the report title. Clicking on it will display the cursor. Type ST Applications - Writers Report. If the Date and Page buttons are selected the date and page number are displayed at the top either side of the title on each page. Click on these.

The structure of the report is based on the input on the four lines below the title, Fields, Report, Filter and Order. Fields will select the field data values we are interested in from one or more files. The positioning of the fields, their names and derivation can be configured. Report allows some simple statistical analysis of the fields and their values. The Filter controls the type of records that are included in the report and permits the linking of two or more files in a relational query. Order allows the output fields to be displayed in a sorted order.

The fields we want to display are Article Author, Issue No and Article Name. Click on the Fields button and the Query Fields dialog is displayed. Click on Article Author field. I want this field to be called "Writer" in the report. To rename a field click on the AS button then on the Value input line and type Writer then Return. The Issue No field is only three characters wide and when it is displayed the next field to the right will start four characters into it, thus partially overwriting the field title. The length of the field can be changed with the & Length operator. Click on & and type 6 into the Value input line pressing Return then click on the Issue No field. We shall rename this to "Issue". Click on AS button and type Issue in the Value line then Return. Next click on the Article Name field and on OK to finish (Fig 2).

The full line should now read

Article Author AS "Writer" ,&6Issue No AS "Issue",Article Name

Back in the Query Definition dialog click on Report button. Here I would like the articles from each author to be grouped together and counted with the overall total shown at the end. Here I will need to use the GROUP operator to group all the records for the Article Author field together. The COUNT operator will count those records and display a subtotal and needs to be included after the GROUP operator and field name it refers to. For the count of the whole report the operators REPORT COUNT will suffice giving the total input line of

GROUP Article Author COUNT REPORT COUNT

The placing of these operators is crucial and the manual doesn't go into enough explicit detail for many users. Again, experimentation is the key to building up knowledge and experience. Usually, REPORT and GROUP go before a field name and before COUNT. MEAN and SUM also go before one or more field names which must be numerical. COUNT normally goes after field names and SUMMARIZE can go at the beginning or end of the input line. This latter will suppress the field values and provide a summary of the requested statistics.

Click on Report button and in the Query Report dialog click on Group, the Article Author field, then the COUNT button, the REPORT button and COUNT again. Click on OK to finish (Fig 3).

We can choose which records to include or exclude from the report with the Filter button. For the moment we will leave this so that all records are included.

The order of the authors should be alphabetical and ascending from A to Z. It is important to order those fields that will be counted in a report. Click on the Order button and then on the Article Author field and the Ascending button. Click on OK (Fig 4).

Before we run the report we ought to save it. Click on Cancel and go to the Project menu and select the Save query item. Type in writers for the name and press Return. Go to the Process menu and the Query item. We will send this report to the screen so we don't need to select any of the Print, Disk or File buttons. Click on OK and the first page of the report will be displayed with the date, title and page number at the top. Underneath are three columns of data. The Writer column is blank. Why? Keep pressing the Pause button and after eight or nine pages you will see that there are 142 records with no author. The next screen shows the writer "Baines, Mark". The issue numbers appear mixed up. Page 11 shows the group count of 23 articles for this writer. Keep clicking on Pause to see the whole report or use the Stop button.

We can improve this report in two ways. Firstly, we can remove the 142 records with no author and secondly, arrange the issue numbers in order. Go to the Query Definition dialog and click on the Filter button. Here, we want to not include Article Author fields that are blank. There are several ways to do this but the simplest is

Article Author <> ""

which means Article Author field doesn't equal blank values. Click on Article Author field, then the <> button and type in two double quote marks after the <> on the main entry line. Click on OK.

Click on the Order button and on the Issue No field and then the Ascending button. Click on OK (Fig 5).

Save the query again this time by just double clicking on WRITERS in the Save query dialog and then on OK to proceed. Select the Query again and run it with OK. It will take longer this time because of the increased processing. If you examine the report to the end you will see that every author is grouped and counted and the total count should be 427 articles.

You can print this report but this will require some configuration of the Printer options in the Status menu. Superbase does not cater directly for A4 pages unless you enter a Paper Initialization Sequence to tell the printer and Superbase what the size of the paper is. Some reports will overflow the width of the paper and smaller fonts such as elite or condensed will help here. You will have to investigate the printer control codes for your printer. Using standard Epson Escape codes, 8 lines per inch will give you more lines to a page with ESC 0 or 27;48. Elite characters at 12 per inch is 27;77, set a left margin of 3 - 27;108;3 and page length of 93 lines (number of lines on A4 paper at 8 lpi) with 27;67;93. A Custom page size of 95 columns and 91 lines (use a two or three fewer than the page size to leave a bottom margin) will be necessary under this set up. If using continuous stationery it may be best to select Single sheet to realign the paper with each page. Do note that the Printer Options settings affect the display on the screen as well. With a line length of 95 characters the page number will be displayed to the right of the screen although the page numbers will still be correct. Also note that even with this line length, this particular report will still overflow the lines. Try condensed mode, but do experiment.

Try sending the report to disk. Click on Disk, then OK and for the filename type writer.txt. Quit Superbase and load up your word processor or editor and examine this file. Could this sort of thing be useful to you?

Play with the settings for a different report appearance. Try adding the word DOWN at the beginning of the Fields line by typing it directly into the main line in the Fields dialog. Don't forget the space after it. What happens if you didn't include the Article

Author field in Fields? Also, include the word SUMMARIZE at the end of the Report line.

Relational queries

Relational queries are where reports are constructed from more than one file. This is not difficult if you follow a few rules. For my example I would like to write to each of the authors for the present issue of ST Applications and for that I need their addresses. These are kept in a separate file called ADDRESS. This should also be on disk magazine DMG.33. *Please note that the addresses found in it are entirely fictitious and are used for demonstration purposes only.* The two files must have a field containing the same data values to link them together. The field names can be different but the values found in them must be unique within the record, that is no other field must contain those same values. The two fields are linked on the Query Filter line with an equals operator and a full stop between the field name and its file. In our example files, the Article Author field in the STAPPS file is the same as the Name field in the ADDRESS file. So

Article Author.STAPPS= Name.ADDRESS

Once that link is established the rest is much the same. Fields for display can be taken from each file as required.

Open up the ADDRESS file using the Project menu and Open file item so that it is available as well as the STAPPS file. All queries must have the files containing the data opened. Start a new query by clicking on Clear to remove the last one. Give it a title such as Present Writer's Addresses and click on the Date and Page buttons.

In the Query Filter dialog type on the main input line

Article Author.STAPPS= Name.ADDRESS

I find it useful to keep the file name in capitals so that field names can be distinguished from file names. Click on the AND operator the Issue No field, the = equals operator and enter 23 in the Value input line and press Return. Here we have established the link between the files and are only including those records from issue number 23.

In the Query Fields dialog, we want to list the Author's name, the Article Name and their addresses. At the top of the dialog is the File name STAPPS or ADDRESS and an upward pointer. Click on this pointer to change the file name and hence the field names. With it on STAPPS, click on the Article Author field, then Article Name then click on LINE button to place a new line in the report. Now click on the File name pointer to change to the ADDRESS file and click on Address1, Address2, Address3 and PostCode fields. Click on LINE again then on OK.

In the Query Report dialog, click on Report and COUNT then OK. This will give a total of the records found. Lastly, in the Query Order dialog click on Article Author (you may have to change files with that pointer), the Ascending button and OK (Fig 6).

Save this query by clicking on Cancel and call it ADDRESS in the Save query dialog. Go back to the Query Definition and run it by clicking on OK. You should get a report containing data from two different files. Experiment with the layout. Try adding the word FIELD to the start of the Fields line to omit the field names for a tidier appearance.

The aim of these tutorials is get you to use Superbase and play with it - experimenting is the *only* way to gain experience. Being told how to do something is never a substitute. As long as you have copies of your files you can't cause any harm especially when writing queries.

Have fun!

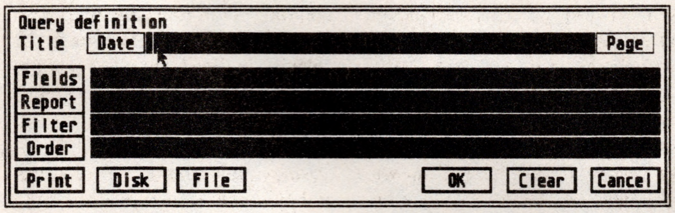
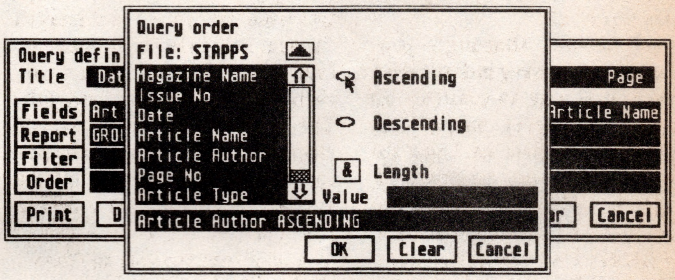

Query definition
Title
Date
Page
Fields
Report
Filter
Order
Print
Disk
File
OK
Clear
Cancel

Figure 1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Article Name
Article Author
Page No
Article Type
Ascending
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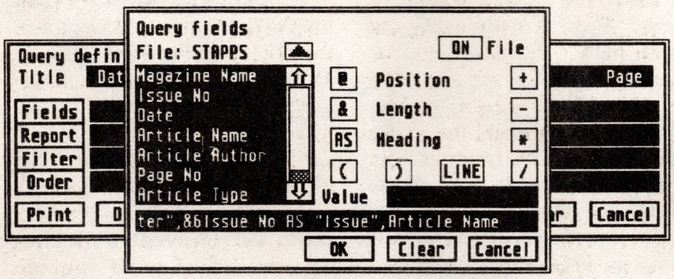
&
Length
Value
OK
Clear
Cancel

Article Author ASCENDING

Figure 4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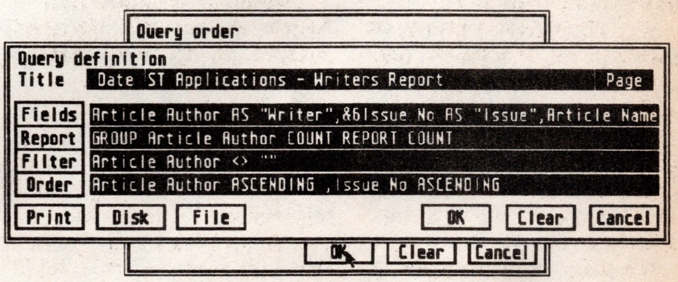
ter",&6Issue No AS "Issue",Article Name

Figure 2


Query order
Query definition
Print
Disk
File
OK
Clear
Cancel
OK
Clear
Cancel

Title: Date ST Applications - Writers Report Page

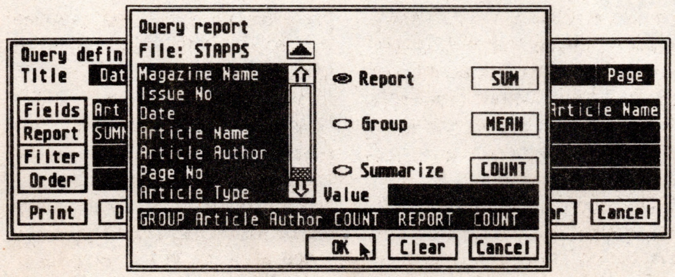
Fields: Article Author AS "Writer",&6Issue No AS "Issue",Article Name

Report: GROUP Article Author COUNT REPORT COUNT

Filter: Article Author <> ""

Order: Article Author ASCENDING ,Issue No ASCENDING

Figure 5


Query defin
Title
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Fields
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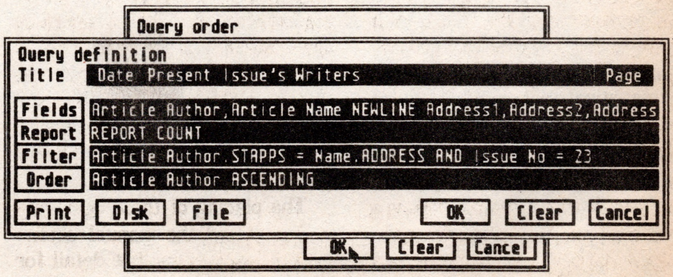
Filter
Order
Print
D
Art
SUMM
rticle Name
r
Cancel
Query report
File: STAPPS
Magazine Name
Issue No
Date
Article Name
Article Author
Page No
Article Type
● Report
○ Group
○ Summarize
SUM
MEAN
COUNT
Value
OK
Clear
Cancel

GROUP Article Author COUNT REPORT COUNT

Figure 3


Query order
Query definition
Print
Disk
File
OK
Clear
Cancel
OK
Clear
Cancel

Title: Date Present Issue's Writers Page

Fields: Article Author,Article Name NEWLINE Address1,Address2,Address

Report: REPORT COUNT

Filter: Article Author.STAPPS = Name.ADDRESS AND Issue No = 23

Order: Article Author ASCENDING

Figure 6

Going On-Line

ISDN

This month, Mark Baines takes a look into the future of comms.

The Public Telephone System Network (PTSN) was designed from the outset as an analogue system. Sound, usually voice, is picked up by a microphone which generates a varying voltage (the analogue signal) which is carried by the network along wires to a receiver and converted back into sound again by a loudspeaker.

When we wish to use the telephone network to carry computer data, which is digital in form, we are forced to use a device which converts those digital signals into the analogue voltages required by the telephone system. The receiver also uses the same device which converts those voltages back into digital signals for the computer. This device is, of course, the modem. FAX machines do the same, being in principle an integrated scanner, printer and modem.

Limitations

More and more computer data is being transferred in this way, mostly by businesses, academic and research institutions and their networks. More and more hobbyists are also getting on the bandwagon, this supposedly being the age of Information Technology. However, the telephone system is optimized for speech using a frequency bandwidth of about 2-3 kHz. This, in turn, limits the amount of data that can be transmitted along these lines. Modems have always used various techniques to compress the signals to get a greater throughput, such as Frequency-Shift Keying, Differential Phase Shift Modulation, Quadrature Amplitude Modulation and for the 9600 and 14,400 bps rates Trellis Codes Modulation. This is the function of a modem, to modulate or change the carrier wave of the signal in a data-significant way either affecting the amplitude or frequency of the signal. But if that frequency and amplitude range is severely limited, as it is, then technology hits a brick wall with a data transmission rate of 28.8 kbits/s (twice V32bis modems) being the perceived maximum on most lines in the UK.

Some of these limitations were answered by the replacement of the mechanical exchanges with digital switching technology which can switch and route calls more easily if they are converted into a digital form first. About 86% of the network have digital exchanges with digital signals passing along the major trunk routes. However, the subscriber line - that wire from your telephone to the exchange - is still analogue. This has been likened to us all using fast, multi-lane motorways to travel around only to have to leave them on pot-holed dirt tracks to get home. Effective data transmission is limited, like most things, by the weakest link in the chain and until this part of the system is also made digital then fast, efficient data transmission for non-leased line users will always remain limited.

ISDN

This is where ISDN comes in. The Integrated Services Digital Network allows for the replacement of this subscriber line with a digital system. There are two ISDN rates. The Primary Rate provides 30 64,000 bits per second (over four times the speed of the V32bis 14,400 bps modems) voice and data channels and a separate control channel. This is intended for large businesses and institutions with modern switchboards. The ISDN Basic Rate is for smaller establishments and domestic use provides two 64 kbits/s data channels and a signalling and control channel. This ISDN 2 is a twisted pair connection called an S interface operating as a bus so that practically any digital device may be attached to it directly including your computer, though usually connection is through a terminal adaptor. Some of these provide RS232 connectors with internal electronics making it appear as a modem with Hayes AT modem commands so that normal comms software can be used. The CCITT V110 and V120 protocols (error control with speed conversion) will adapt the ISDN line speed to that of a computer. However, the computer serial port usually limits the throughput with a maximum of 19,200 bps on a ST. The TT SCC RS232 ports can handle much higher rates with the limitation being serial port to memory access. Connections can also be synchronous using the X21 protocol but as most computers are asynchronous devices extra protocols and electronics start to increase the costs enormously for PCs making it unlikely on the ST/TT range. Data compression techniques such as V42bis can be used on top of V120 in theory, but what is required are terminal adaptors with multiple capabilities (voice and different types of rate adaptation) controlled with the enhanced Hayes command set. These terminal adaptors start at around £500 at the moment but prices will inevitably fall as demand rises.

Up to eight devices can be attached each contending for one of the two channels. Each terminal can have its own exchange number so that outside callers can access that computer directly or you can have one line number and add four characters to the end to access a particular terminal. ISDN telephones must be used which convert speech into a digital form with the quality of CD players but ISDN phones can only be used with another at the receiving end at the moment.

The almost error-free and fast data transfer rates provided by ISDN open up possibilities which are currently severely restricted. The high bandwidth allows for video conferencing which will, with videophones, become commonplace. Desktop conferencing, where a video image of your contact is shown in a window on screen is useful for management meetings or group projects. This could appeal to teams of programmers or magazine contributors, for instance. Telecommuting would become more feasible with the employee at home being able to see and talk to the rest of the workforce. Group 4 FAX machines use ISDN lines for fast, reliable, high resolution transfers, even in colour!

So what does all this cost? At present, ISDN 2 comes to £400 for the connection fee, £84 per quarter rental fee with call charges the same as normal. The technology is available now but obviously with this sort of outlay ISDN isn't something the serious hobbyist at home is going to get into, just yet. With CIX offering ISDN connections and companies moving from expensive Kilostream and Megastream leased lines to this cheaper and just as reliable system, it won't be long before the prices drop making it a viable option for us normal users. But then, I'm still waiting for System X and Mercury!

UPDATE

Version 13.2 ~ May 1993

Clip Art

SSM.67: Scanned Clip Art of animals: 1.IMG to 38.IMG

SSM.68: Scanned Clip Art of animals: 39.IMG to 77.IMG

SSM.69: Scanned Clip Art of animals, people, faces, famous people, domestic appliances, jewellery, humour: 78.IMG to 92.IMG and 126.IMG to 141.IMG.

SSM.70: Scanned Clip Art of cowboys, people, vehicles, buildings, humour, maps, headlines, Halloween, flags and animals: 253.IMG to 278.IMG and 378.IMG to 395.IMG.

SSM.71: Scanned Clip Art of fantasy themes: 441.IMG to 459.IMG.

SSM.72: Scanned Clip Art of comic covers, Cowboys and Indians, people, vehicles, workers, computers, Disney, robots: 461.IMG to 535.IMG, Playboy.Img and Wolf.IMG.

SSM.73: Scanned Clip Art of borders, people, Valentine's Day, July 4th, sport, cars, eyes, small faces, horses, symbols, trees and CAD: 565.IMG to 609.IMG and 710.IMG to 711.IMG.

SSM.74: Scanned Clip Art of kitchens, meat, animals, borders, vehicles, computers, tools, people, hobbies and maps: 764.IMG to 818.IMG.

SSM.75: Scanned Clip Art of kitchen tools, vegetables, Halloween, gifts, scrolls, borders, Easter, and mythical themes: 819.IMG to 820.IMG, 837.IMG, and 859.IMG and 884.IMG.

SSM.76: Scanned Clip Art of fantasy and horror themes: 903.IMG to 922.IMG.

SSM.77: Scanned Clip Art of historical figures, workers, people, houses and animals: 923.IMG to 949.IMG.

SSM.78: Scanned Clip Art of people, cars, houses, tradesmen and washing machines: 950.IMG to 979.IMG.

SSM.79: Scanned Clip Art of machines, buildings, motor cycles, spiders, warriors, Australia, Zodiac, animals, borders, weddings, people, humour and computers: 980.IMG to 981.IMG and 1037.IMG to 1094.IMG.

SSM.80: FANTASY and DINASOURS IMG format clip art: Archaeop; Dinosaur; Dragon; Dragon4; Dragons; Fire; Harpy; Hobhound; Mermaid; Monsters; Mutanfly; Norse; Norse_2; Norse_3; Orcwarr; Servant; Shield; Spectre; Spell; Sturm; Tanis; Thebigri; Three; Thylacin; Unicorn; Venus.

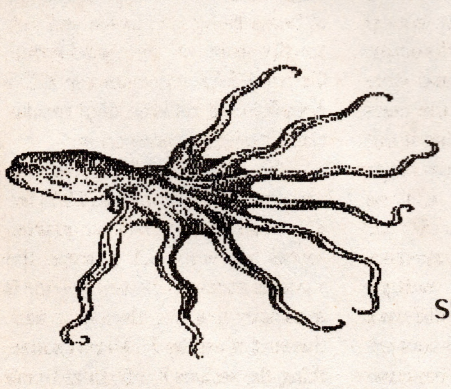
SSM.81: CARTOONS (1) IMG format clip art: 01 to 21; Alice; Attalupo; Babsbunn; Battle; Bebe; Beeb; Bert; Biffo; Bignose; Bobby; Boxoffic; Bstkids; Bugsbunn; Bugs_01; Bugs_02; Bugs_03; Bugs_04; Bugs_05.

SSM.82: CARTOONS (2) IMG format clip art: Bugs_06; Bugs_07; Bugs_08; Bugs_09; Busterbu; Cartoon1; Cartoons; Caveman; Cbbunny; Cbcroc; Cbintern; Cbmouse; Cbrown1; Cbrown2; Cbrown3; Clockbug; Colonel; Daffy; Dentree; Dmennace; Dmennice; Dominate; Donald; Girafrin; KÖpfe_1; KÖpfe_2; KÖpfe_3; Mowglrun; Parachut; Piedpipe; Pigout!; Porkypig; Pudsball; Silvestr; Simpsons; Slibface; Snoopy; Snowhit2; Snowhite; Spiked; Strip_20; Superman; Witch; Witch2; Witch3; Woinloft.

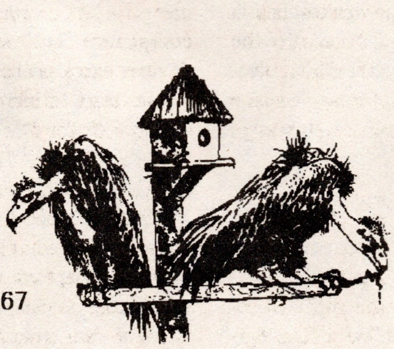
SSM.83: CARTOONS (3) IMG format clip art: Air; Cinerela; Dancebee; Dduck; Dogbroly; Duck_gg; Dwarfs; Executio; Fatty; Feedbird; Francobl; Fredbarn; Genie; Gnasher; Gordonle; Grumpy; Hilda; Hook1; Jakydaws; Lionride; Litlplum; Madhater; Marchare; Mick&min; Mickey; Mickey1; Mickey2; Miniminx; Mispiggy; Mowgelep; Mowgli; Nancy; Ostrycar; Pabea; Parking; GARFIELD: Garfie01 to Garfie18; Garfield.

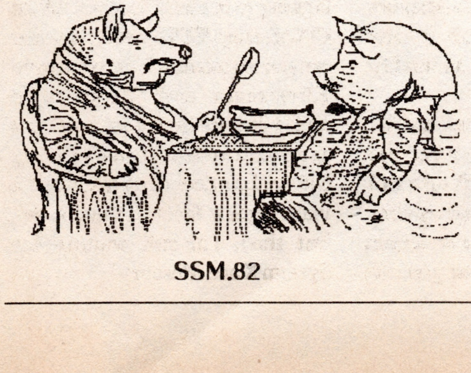
SSM.84: TRANSPORT IMG format clip art: Balloon; Bigtruck; Bikeivar; Bild8; Bus; Carold; Columbia; Crane; Cycle; Cyclist1; Cyclists; Dustbin; Gearbox; Helicopt; Hondaeng; Liner; Mcycle1; Mcycle2; Mcycle3; Pubtrans; Sailshi2; Sailship; Submarin; Superwho; Tractor; Tractor2; Train; Train100; Train2; Trainang; Trainold; Trains; Trains1; Trains2; Trains3; Trains4; Trains5; Trains6; Trains7; Transprt; Vwracer; Wankel; Wheel.

SSM.85: CARS, PLANES and TRANSPORT IMG format clip art: CARS: 1913Ford; 3DPorche; Audi; Bmw; Bmw1; Bubblcar; Cadillac; Car; Car2; Car3; Cars; Cars1 to Cars20; Carstru2; Carstruk; Chevy; Countach; Daimler; Dragster; Ferrari; Ferrari1; Ferrari2; Honda; Mazda; Mercedes; Mg; Mitsu; Montego; Morris_m; Oldcar; Pickup; Porsche1 to Porsche6; Renault; Rolls; Scrapvan; Volvo; Vw; '89Tbird; PLANES: Aircobra; B17F; B29; Bf109e6; Bi_plane; Blkwidow; Buffalo; C47a; Corsair; Dauntles; Dc-10; F-15; Flight; Flying; Fw190a2; Gliders; Harrier; Havoc; He111h3; Heli; Hellcat; Hs123; Jumbo; Liberatr; Lightnng; Mosquito; Mustang; Pb2y3r; Plane; Plane2; Planeout; Porcupne; Schwalbe; Spitfire; Stuka; Tomahawk; Zero; TRANSPRT: Emergncy; Mektruck; Train; Yankee2.

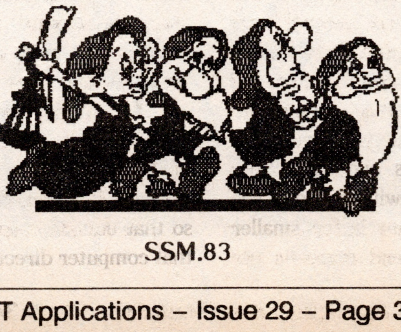


SSM.67





SSM.82



SSM.83

SSM.86: WORLD THEMES IMG format clip art: EGYPTIAN: Egittosi; Egyptian; Mummibis; Mummie; Osiris; Sphinx; Tutankam; JAPANESE: Fans1 to Fans3; Matsuri1 to Matsuri7; Samurai1 to Samurai8; Ukiyoe1 to Ukiyoe8; MAPS: Euro1914; Europe; Europe2; Italy; Map; Uk; World; USA: Americ; Ladylib; Lib-BELL; Liberty; Usaeagle; Usa_01 to Usa_03.

SSM.87: ANIMALS IMG format clip art: Antlers; Babydeer; Bear; Bee; Beetle; Blackcat; Blakcat1; Bluetit; Buldogs; Bulsheds; Bunny; Buttrfly; Canadag2; Canadago; Cats; Chargote; Chipmunk; Cocksout; Comfrogs; Donkey; Doormous; Ducks; Fish; Fish1; Fish2; Frog; Hare; Hippo; Hippos; Horseout; Kitty; Kitty2; Kitty3; Lion; Lion2; Moggy; Morgan; Octopus; Outlhors; Panda; Pandas; Pandas2; Parrots; Parrots2; Picture; Prairdog; Rabasket; Raccoon; Raccoon2; Rhino; Rooster; Seahorse; Sehorses; Sheep; Siamese; Smudge; Snail; Snakebuk; Snakehan; Sparrow; Squirrel; Storks; Tiger; Tomcats; Toro; Turtle; Turtlres; Vultures; Wasp; Witrabit; Yorkies; Zebras.

SSM.88: FLOWERS IMG format clip art: Flower01 to Flower33.

SSM.89: FLOWERS, TREES and VEGETABLES IMG format clip art: FLOWERS: Basket; Bigroses; Btrcups; Flower34; Flowers3; Rose; Rose1; _blumen_; TREES: Logs; Oaks; Shrubs; Tree1; Tree11; Tree2; Tree21; Tree3; Tree4; Trres2; _bonsai_; VEG: Artchoke; Aspargus; Beets; Betton1; Broccoli; Cauliflr; Celery; Corn; Cornepia; Eggplant; Gourds; Leeks; Mushroom; Okra; Onions; Parsnips; Peas; Pepper; Spices; Swedes; Veggies; Zucchini.

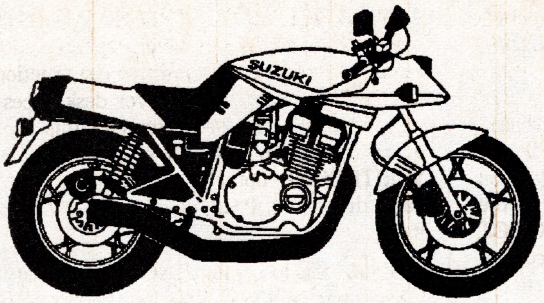
SSM.90: FOOD IMG format clip art: Apple; Applepie; Bagels; Beer; Beer2; Bread1; Breadbor; Cake; Cheesebd; Chercake; Clipart3; Coffe; Cookbook; Corncope; Cornhens; Curry; Duck; Garlic; Jellyrol; Layrcake; Leeks; Lemonpie; Mushroom; Okra; Onions; Onions2; Peas; Pecanpie; Peppers; Pineaple; Roast1; Rolls1; Sausage; Shelfish; Spagheti; Steak; Strawber; Turkey; Turkey1; Turkey2; Turkey3; Turkey4; Veg1; Wine; Wineraks; Wine_b; Zucchini.

SSM.91: HOUSES (1) IMG format clip art: Bunglow1; Capecod; Chalet; Colonial; Gothic; Halftmb2; Halftmbr; House; House1; House2; House3; House4; Logcabn1; Meditran; Saltbox; Windmill.

SSM.92: HOUSES (2) IMG format clip art: Church; Design; House27 to House30; House_1; House_2; Queenann; Townhous; Townhse2; Victoran; Villa.

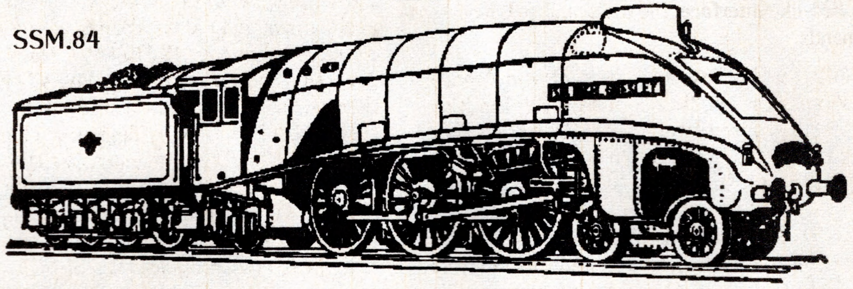
SSM.93: PINUPS IMG format clip art: 2_Girls; Akt; Barbara; Bardot; Bbardot1, Bardot3; Brooke; Bubububu; Cry_girl; Donna; Eva; Gioconda; Girls_1; Girls_2; Girls_3; Jessica1; Jessica5; Lady; Model001; Model002; Moirorey; FACES: Andrea; Ladyhawk; Ronald; Tina; Tv.

SSM.94: OFFICES and WORK IMG format clip art: OFFICE: Award; Boss; Call_us; Gone; Handpens; Money; Nitework; Office; Office_1; Office_2; Paperout; Paper_in; Phone; Pointup; Rubstamp; Smoking; Trash; WORK: Builder; Cleaner; Cleaners; Crime; Dealer; Detectiv; Diy; Eficient; Joiner; Ladyweed; Meeting; Nursheds; Office_1 to Office_3; Openmail; Painter; Photogra; Plumber; Printer1 to Printer5; Rainchef; Reader; Restrant; Sculptor; Secratry; Security; Shopper; Shopping; Teacher; Town_cry; Typist; Wetherma; Workman; Work_1 to Work_3; Worried.



SSM.88

SSM.84



SSM.95: MEN WORKING IMG format clip art: Bizlectr; Busdrivr; Butcher; Carbiz; Chauffer; Chesgame; Cnwpiker; Copntikt; Darkroom; Farmerhd; Fireman; Fotogrfr; Gardner2; Gardner3; Handshak; Hardhat; Lectricn; Manonfon; Midlage; Midwestn; Painter; Paynbils; Pharmcst; Politicn; Poolbum; Printer; Pumpgas; Quartet; Rancher; Smile; Speaker; Surveyor; Technicn; Tilelayr.

SSM.96: OBJECTS IMG format clip art: Art; Bathroom; Bell; Bible; Biggerg; Bild3; Bild4; Binoculr; Bucks; Bucks1; Camcorde; Cameras; Camera_1 to Camera_3; Camerra3; Candle; Candle2; Cassette; Cbwire; Cesso; Crate; Cross; Cup; Dame_uhr; Deskitem; Dollies; Drill; Drilstan; Feather; Filmreel; Firebrus; Flamp; Fork; Greekvas; Hamburgr; Krone; Kutensil; Lamppost; Loo; Mask; Money; Moneybag; Ornament; Ornment1; Ornment2; Ornment3; Ornment4; Ornment5; Orologio; Outphone; Pen; Pencil; Pentax; Pilow; Pwatches; Radio; Resistor; Ring_3; Robohand; Robots; Rokchair; Saw; Scope; Sdriver; Sette; Sewing_m; Shadows; Spinner; Stile; Telefon; Toys; Tvariel; Tv_radio; Uhr; Vases; Videocam; Wallplug; Watch; Watch2.

SSM.97: PERFORMANCES and POP IMG format clip art: PERFORMANCES: Ballet; Boxseat; Camera; Clown; Clownal; Dancer; Dansteps; Five_hea; Group; Hapycrow; Lightsc; Magician; Mc; Operabug; Pirate; Programm; Showbiz; Starsing; Starvio; Violins; POP: Allison; Beatsilh; Charles2; Europart; Fladyres; Mcartney; Paulyoun; Popbeatl; Who.

SSM.98: DTP ITEMS IMG format clip art: Announce; Artists; Borders; Brdscrol; Bubbles; Cafe_man; Clockguy; Displays; Frame; French; Goodguys; Grabber; Grabber2; Illumina; Littleg; Lit_pic1; Lit_pic2; Lit_pic3; Lit_pic4; Macscan; Mark001; Mixed_1_; Mixed_2_; Motif_1 to Motif_3; Neroscro; Phrases; Poster; Poster2; Printing; Rokbotom; Scimit; Scimita; Scroll; Signpost; Skeleton; Stencil; Words_01.

SSM.99: CARDS, HALOWEEN and XMAS IMG format clip art: CARDS: 13; 4salutat; Allgnite; Babies; Birthda2; Birthday; Easter; Elmer; Festivty; Greeting; Guyfawks; Mothers; Mothrsdy; Mover; Moving; Newborn; Newyears; Party; Thanksgi; Theclass; HALOWEEN: Blackcat; Blakcat1; Blakcat2; Blakcats; Crudelia; Demon; Demon2; Ghost; Ghostbus; Griff; Grimreap; Hap-HALO; Haunthse; Jkolntn1; Jkolntrn; Monk; Outowl; Witch; Witch2; Witch3; Witches; XMAS: Dadycris; Fkrismas; Hearth; Holly; Joysanta; Mistltoe; Nomehors; Ornment5; Robin; Santa; Santas; Snowflak; Snowman; Snowman2; St_nick; Thsnowma; Wreath; Xmas; Xmastree.

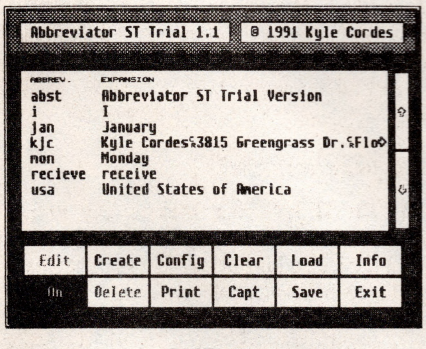
Compendium Disks

CMP.13: ST Informer Disk of the Month (March 1992): 21 - blackjack game (C). ARC SHELL v3.1 - adds full Quester LHARC functions plus several other important enhancements. ABBREVIATOR v1.1 - fully functioning demo (a nine abbreviation limit) - save time storing regularly used phrases for automatic expansion as you type. ANDURLIN - Bubble Ghost clone (M). ED HAK v2.5 - demo version of a text editor that also edits binary files, disk sectors, and RAM (ACC or PRG). EDM SHEL v2.22 - alternative to ArcShell that uses the new EDM interface - easy-to-use archive shell with support for ARC, LZH, ZIP, and ZOO. INVADER - good version of Space Invaders (M). LZH201_I - now a standard for file compression on the ST - generates small files and is very fast. MATH-QUIZ - arithmetic exercise program that's great for children (C). PIN HEAD v2.1 - tiny AUTO folder utility that speeds up the loading of programs. RESISTOR - calculates the value of electronic resistors. SUPER BOOT v7.4 - select which desk accessories, auto programs, and DESKTOP.INF file to use. Set the date, time, write verify, and more. TAC-CAT v2.22 - ST Users' Group Disk Librarian to create a disk-based and/or printed catalog for a disk library. WORD SEARCH CREATOR - demo version (limited to a maximum of five words) of the premier word search puzzle creator. XBOOT DEMO - The Boot Manager - regain control over AUTO folder and desk accessories: GEM-like interface, file tools, and batch commands.

CMP.14: ST Informer Disk of the Month (November 1992): 123 JUMBLE - lets kids sort out jumbled up numbers (M). ARC_LZH - complete file compression suite - ArcShell, ARC602, and LHARC. ASCII2WW - converts ASCII files into something Word Writer ST can format. BLITZSCHNELL v1.40 - Hard Drive Defragmenter with an intuitive GEM interface. BOOTKILL - renames AUTO programs and DA's so they won't be loaded. CONVERTER v2.1 - converts area, lengths, volume, temperature, pressure and more, to/from Empire/metric. DESKTOP MANAGER - new MultiMedia Software developer - demo works from drive A only. DOUBLE v2 - STE screen height doubler - now uses less memory - double the screen height in STE medium and high resolutions with scrolling or interlacing. (STE only). INTEGRTY - Verify and compare files. JC VIEW v1.1F - loads numerous picture file formats and allows basic editing (M:1Meg). LPRINT - prints text files in the background. MAKE*A*DATE v2.5. - Scheduler, Phone Book, ToDO List, Notes featuring File Attachments, dBASE file viewer, Phone Dialer, and more. PARLOR v12 - "Come into my parlor..." by D.A.Brumleve - simple matching game with an insect theme - for ages 3-8 (C). PAULA v2.0D - excellent ACC/PRG .MOD player (TOS 1.4+). PYSCHO WORLDS - fast arcade action with wild graphics - user can design more worlds with the construction set. RUBIK - neat screen saver desk accessory. SDUMP 1.5 - 24-pin screen dump program for Epson LQ1500 or compatibles. WRITE BOOT - optimize your boot up - scans hard drives, set resolution, step rate, and more.

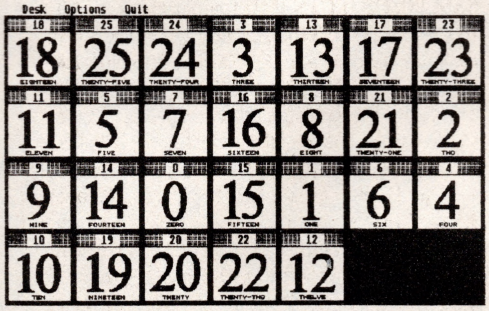
CMP.15: ST Informer Disk of the Month (December 1992): ST ALMANAC - complete appointment and dates calendar with a listing of historical events. BLITZ144 - Hard drive optimizer and defragmenter. Blitzschnell can defragment and optimize drives all by itself. BREAKUP - Splits large files into smaller ones. GROCERY LISTER - maintains a database of grocery items and then creates a shopping list. MACREAD - allows your ST to read Mac SCSI hard disks. RAYOID - Asteroid clone with incredible graphics (C). SEBRA - run mono programs on a color monitor (C). SUPER BOOT v8.0 - NEW features include - Stereo DMA sound, control 10 times more files, now takes commandline parameters, reboot from Super Boot, and much more. TeraDesk v1.24 - replacement desktop - If you don't have Atari's NewDesk this will give you all the features and a bit more. TIME DRIVER - corner clock that also displays disk access. VEGAS BLACK JACK - demo of a complete blackjack simulation which teaches playing strategies and card-counting techniques (C). WP TOOLS - Desk Accessory with settable alarm clock, printer selection, word count, free RAM, disk label, undelete file, and screensaver.

CMP.16: ST Informer Disk of the Month (February 1993): CENTIPEDE - very good version of this popular game (C). DSP 1.1 - digital signal processing program. JAKEVIEW - picture viewer and converter (C). JC VIEW v1.1F - art package that supports many different picture formats, and even allows editing (M). LABEL JRB - labelling program. LUCKY LOTTO - lottery number generating program with the ability to include or exclude your lucky/unlucky numbers! (M) MASTER CACHE v2.72 demo - fastest ST disk caching for anyone without an ICD host adapter - password-protected demo. MAXIDISK v2.2 - RAM disk that compresses data, decompression is automatic when files are copied, deleted, executed. PAYX v2.1 - very nice payroll program for USA users. SILK MOUSE v3.0 - very well featured mouse accelerator. TLC BOOK 3 - address book and date keeper - prints phone books, address books, mailing labels, date books, and date labels. UPS PRGS - calculate the rates of UPS shipping bills in the USA - GFA Basic source code is included so this can be modified for other shippers.



ABBREV.	EXPANSION
abst	Abbreviator ST Trial Version
i	I
jan	January
kjc	Kyle Cordes%3815 Greengrass Dr.%Flo
mon	Monday
recieve	receive
usa	United States of America

CMP.13



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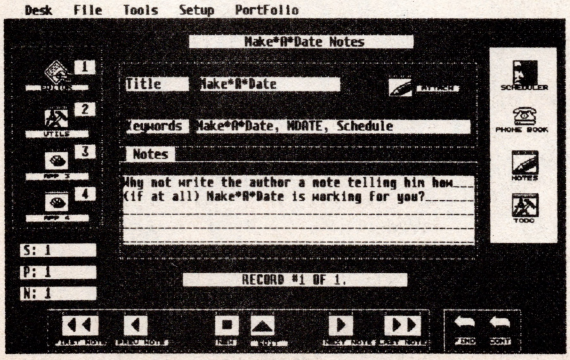


Title: Make*A*Date

Keywords: Make*A*Date, MDATE, Schedule

Notes: Why not write the author a note telling him how (if at all) Make*A*Date is working for you?

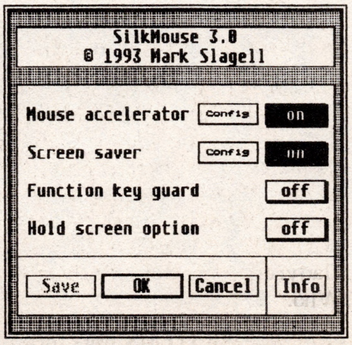
S: 1

P: 1

N: 1

RECORD #1 OF 1.

CMP.15



Mouse accelerator: on

Screen saver: on

Function key guard: off

Hold screen option: off

CMP.16

Educational Software

EDU.41 to EDU.43: DEATH OF A PRESIDENT - 3 disk set which investigates the death of John F. Kennedey. Includes digitised pictures, sound samples and text files all presented using Talespin so that information may be displayed or replayed on the click of the mouse. The third disk includes an adventure game involving playing the part of a reporter for the Dallas Morning News who has to explore the scene of the shooting, interview witnesses and build up a picture of what has happened. Good learning tool for children aged 11+.(C)

EDU.44: KID PROGRAMS: BURGER - Ronald McDonald attempts to grab burgers as they float by - simplified version of breakout, this is an excellent first arcade game for kids (ages 4 and up). CIRCUS - two-player math game (basic functions, +-/x) with adjustable level of challenge. Nicely done and fun to play. ROBIN - perfect program for parents who deplore the violence of shoot-'em-ups but have children who yearn to wield a joystick! Control Mother Robin as she eats flies and gathers her children from various nests. Ages 3 and up. RABBIT - version of "Clowns and Balloons" - a rabbit bounces off the back of a fox in order to reach carrots floating by in the sky - simplified Breakout for young children (4 and up). SANTAWRK - Santa Claus is grasping for Christmas decorations while angels try to keep a trampoline under him. Breakout style game controlled with the mouse, children as young as 4 will enjoy it. COLORQLT - The Colored Quilt helps kids ages 2-6 learn basic colours. (C)

Fonts

FON.139: THAT'S WRITE FONTS: Screen and 300-dpi printer fonts (suitable for DeskJet and laser printers) converted from PD Signum fonts: Avantgard, Anticap, Antiknp, Antikro, Antimikr, Antik4u5, Antrob7, Antrol7, Baskvill, Blockgr, Broadway, Bubble, Carelit1, Carpica2, Carpica3, Caslon, Cheie, Chrismkr, Christ1B, Circulus, Comochar, Compacta, Compuft, Compult, Anna, Antiqua, CooperB, Courielt, Courfe, Courlt, Data70, Deco, Design, Egyptien, Falsch, Frakturv, Gothic,

KEY

All disks should run on an Atari ST, STM, STF, STFM, STE, Mega ST, Mega STE, TT, Stacy or ST Book with at least half a megabyte of RAM, a double-sided disk drive and a mono or colour display - unless the disk description advises otherwise. We no longer support single-sided disk formats. Disks have not yet been tested for Falcon030 compatibility - details on this will be reported in future Updates.

(M) - Runs in High Resolution Mono.

(C) - Runs in Medium or Low Resolution Colour.

(1Meg) - Needs one megabyte of RAM.

(Not TOS1.6) - Will not run under TOS 1.6 (STe) or TOS 1.4.

($) - source code included.

($C) - C language.

($ASM) Assembler.

Copyright: To the best of our knowledge everything on the disks in this catalogue update may be freely distributed. If you know otherwise please let us know and the offending software will be immediately withdrawn.

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Ordering Details

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The Order Form for these disks is on Page 57

Gotik, Grotmikr, Igrotfe, Jugend2, Karin, Keltic, Kinder, Kunstler, Lanorm, LCD, Linear, Liniehor, Marcus, Modern, NewYork, Normandli, Normande. All files LZH'd - UNLZH supplied.

FON.140: THAT'S WRITE FONTS: Screen and 300-dpi printer fonts (suitable for DeskJet and laser printers) converted from PD Signum fonts: Oxford, Pcourfe, Pcourlt, Peignot, Plakat, Plop, Garamont, Primus, Pris11, Pumpbig, Pumpbold, Pumplight, Pumpmed, Quadrato, Supastar, Times, Yuppie, Zapf, Mathematics, and Pinsela. Most files LZH'd - UNLZH supplied.

Graphics

GRA.162: Imagecopy Colour Demo - identical to the full version except that you cannot save images, and images which are printed or viewed on screen have program information stamped across them. Supports printing of images in colour on 9-pin, 24-pin and DeskJet printers.

GRA.163 and GRA.164: COMPUTER GRAPHICS FOR ART TEACHERS: two disks that aim to bring to the notice of artists and teachers the vast potential available with computer graphics software. Over 60 pictures on each disk. (C)

Information

INF.60: STUNN Issue 14: ST Unemployed Newsletter - lots of articles including consultancy, RAM upgrades, STAC programming, the start of a new comms series, STE, TOS, lots of reviews of demos, various PD programs and the new TT. There is also lots of fiction.

INF.61: STUNN Issue 15: Another collection of articles plus a new friendlier shell program.

Languages

LAN.138: STOS Basic Utilities and Source Codes: STOS TUTORIAL - gives syntax of any command along with a collection of useful notes; MULTIMAT - test your times tables - good for kids; STOS ROUTINES - Demo1; Demo2; Form_inp; Fraczoom; Guardian; Letters; Letters1; Mazegen; Roll1; Roll2; Scroll; Scroll1; Scroll2; Scrolly; Slideshow; Stosdemo; Tron (C:$STOS).

LAN.139: X Debug Demo - fully functioning demo limited to debugging one supplied program. Full version cost £24.95 from the ST Club. X-Debug is an advanced debugger for the Atari range of computers. It is both a low-level debugger, showing memory dumps and register contents, and also a medium-level debugger, understanding about certain high-level languages and allowing source display single-step, and local variable access, for example.

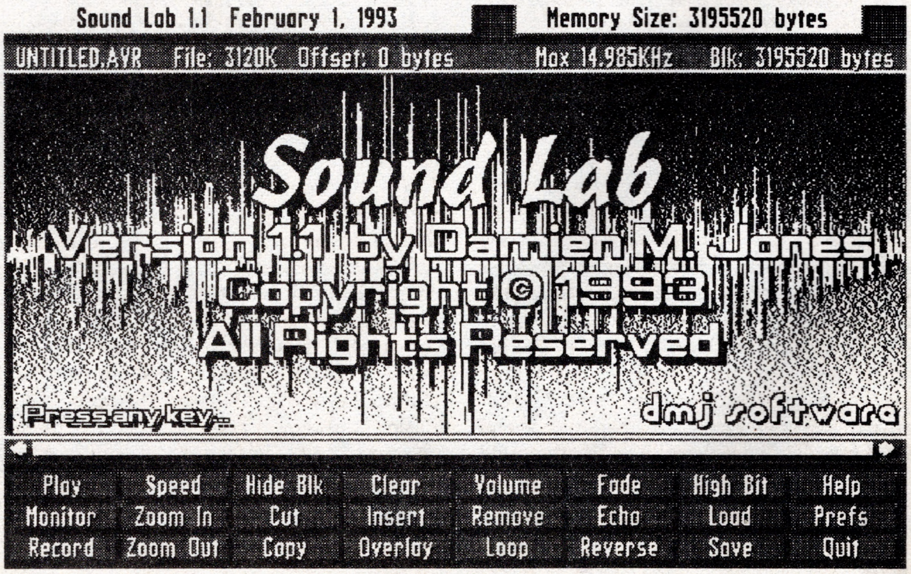
Music

MUS.90: DMJ SOUND LAB: UPDATE to this popular sample editor with plenty of features, and its edit functions are very fast. You can play and record samples from 5KHz to 50KHz, use samples in .AVR, .SPL, .SAM, .WAV, .SND, and .SMP formats, and it is very easy to use.

BUDGIE UK Licenceware

£2.95 each

GBU.113: FOOTBALL TACTICIAN Division One by Camy Maertens. Originally released by Talking Birds, this version covers Barclays League Division One. This is a full version for up to twenty-four users! In addition to the full Division One schedule, all European Cups, League and FA Cups are included. Friendlies and replays. The first ever soccer management game to include strategy and real-time match decisions: formations, tactics, marking, substitutions, injuries, etc. Twenty-player squads with absolute authenticity. Built-in team editor. Top scorers. Transfer list. Twenty seasons instantly retrievable. Complete instruction manual on disk. This is the precursor to Football Tactician 2 which is now the top-selling management game on the ST and Amiga. Although not essential, one Meg of memory is recommended. (C)



```
Sound Lab 1.1  February 1, 1993          Memory Size: 3195520 bytes
UNTITLED.AVR  File: 3120K  Offset: 0 bytes    Max 14.985KHz  Blk: 3195520 bytes
```

Sound Lab
Version 1.1 by Damien M. Jones
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MUS.90

STICKS AND STONES

The air of optimism and expectation generated by the Falcon is fine. But let's not make hope rewrite history, says Günter Minnerup.

As the Falcon is gradually seeping into the retail outlets and Atari followers everywhere are hotly debating the prospects of the new machine dragging the company out of the mire and back into the forefront of the personal computing industry, a very persuasive argument is being heard from all sides and it goes like this: smart move by Atari to launch the Falcon as a games and entertainment machine, as quick success in the games market represents the best hope for us serious users being able to reap the spin-offs from a large user base. Software houses will be attracted by hardware sales figures, and whatever the initial image of the Falcon, development of serious applications will follow the rush to produce for the games market. To support this line of thought, the history of the ST is often quoted: where would serious ST users be today if Atari had not sold hundreds of thousands of machines to the playground and bedroom market? Hence the strange spectacle these days of hardened number crunchers and desktop publishers caught mumbling prayers for the Falcon's acceptance by the nation's youth.

I must admit that I have some sympathy with this argument. After the long series of marketing disasters with new machines purporting to be aimed at the professionals - the ATW, the Mega ST/E, STacy, the TT with or without UNIX - it may indeed be the case that Atari's corporate reputation with any potential customer base beyond the pocket money crowd is so low that no other growth strategy remains. But to cite the fate of the ST as a precedent is rather misleading.

Contrary to a widespread myth, the ST did not achieve its initial impact in the computer market as a games machine. Serious applications for the ST did not appear in the wake of success in the entertainment market, written by software houses eager to exploit an existing large user base. When the "Jackintosh" was first launched in 1985, it was far too expensive for the average games player and Amstrad CPCs, Spectrums, even Atari 8-bit machines still ruled the playgrounds and bedrooms. On the contrary, the ST generated enormous excitement as a "power without the price" alternative to the Apple Macintosh and IBM PC, was widely and quite enthusiastically reviewed in the computing press as such, and quickly - much more so than is usually the case with new, non-standard hardware - taken on board by many reputable software houses keen to write new serious applications, or convert existing ones, for the new wonder machine. In case you have forgotten, even heavyweights such as Word Perfect Corporation, Ashton-Tate, WordStar, Microsoft and Borland expressed interest in Atari during those heady days: somewhere in my dust-covered collection of curiosities, I have a GEMmed version of dBase II and a (German-language) book entitled "WordStar on the Atari ST".

Within a couple of years or so, the ST had such impressive landmark programs as VIP Professional, Superbase, CyberPaint and Signum in its portfolio, virtually created the MIDI market single-handedly and made promising forays into the developing DTP scene with Publishing Partner in the USA, Fleet Street Publisher and Timeworks in Britain, and early talk of a revolutionary new package called Calamus in Germany. The list could be continued almost at will - just spend an hour or so, as I did the other day, browsing through old issues of the American journal STart and our own ST World and you will see what I mean.

In other words, the ST succeeded because its design, speed, power and price appealed to the semi-professional market first, quickly establishing a user base which enabled Atari Corporation to expand production, lower prices and attack the mass games market. As late as 1987, the only ST-specific magazines in Britain (ST World and ST User) concentrated on serious applications, and new ST-related hardware and software was constantly reviewed by the leading general computing magazines such as Personal Computer World. Much the same applies to Atari's two other major markets at the time, the USA and West Germany.

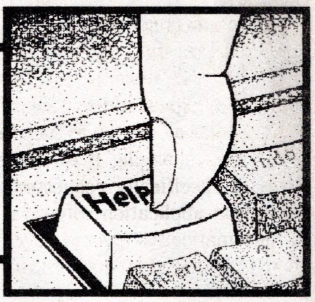
The case of Germany is perhaps the most instructive. This is Atari's largest single market, and the country where the majority of serious ST applications were developed - where would we be today without Calamus, Didot, Retouche, Signum, Tempus, GFA Basic, Cubase, CompoScript, PC-Speed, Megapaint, to name but a few? Atari Deutschland, under the inspired leadership of Alwin Stumpf, successfully marketed the ST as it should have been marketed and we are still reaping the benefits now that Stumpf, briefly promoted to Atari's Sunnyvale headquarters, has been yet another in a long series of experienced, independent-minded and respected people to quit Atari under unexplained circumstances.

Neither in Germany nor in the US did the ST ever become a market leader in computer games. Games were sold, of course, as games are sold for PCs and Macs, but the ST was never primarily considered as a sort of glorified games console with a keyboard attached. The distinction of successfully establishing the ST in the games market, and selling hundreds of thousands of units to games players, belongs to Atari UK. Credit where credit is due, of course - Atari UK always show up well in the corporation's world-wide balance sheets and it is probably no coincidence that Bob Gleadow is now among Atari's longest-serving national heads. But look where this approach has got us in the professional market: with very few exceptions, software houses, hardware manufacturers, distributors, computer magazines, even High Street shops, have abandoned the ST and serious users are almost entirely dependent on imports from the continent or the US.

If the Falcon is going to be marketed as a home entertainment computer and sales take off, there is no doubt that wordprocessors, spreadsheets, DTP programs, databases and the like will follow. Much existing ST software runs on it anyway, what doesn't will be upgraded, and some new stuff taking full advantage of the Falcon's capabilities will appear. Existing serious users will be happy, and our ranks will be swelled by many first-time buyers of the Falcon. But that is a far cry from repeating the initial impact of the ST, from having another go at a serious slice of the professional action. I just cannot see today's industry leaders considering for even one second an investment of their developers' time in porting their software across to a games-led platform, DSP chip or no DSP chip. What is worse, established Atari market heavyweights are increasingly overheard muttering about migration to the PC, Mac, NeXT, even - for heaven's sake - Acorn machines in despair over Atari's failure to provide a stable environment and adequate support for professional, business and educational users.

Forgive me, therefore, if I take all this talk of games-led recovery of the serious market with a large dose of salt. It just doesn't fit the known facts and experiences of the ST era which is now coming to a close.

FORUM



Amoeba Slander

I The Atari News box on page 3 of issue 28 contains two references to the 'Amoeba'. This is the first time I remember seeing this type of snide reference in your excellent publication but it is one of the traits of the mainstream newsstand magazines that really irritates me. Surely the readership of ST Applications ought to be mature enough not to need this kind of ego-stroking to try to convince them that they have taken the right decision in buying an ST in preference to an Amiga, PC, Mac, Sun workstation, IBM mainframe etc. To my mind it is indicative of the kind of schoolboy attitude that pervades the ST Formats and Atari ST Users of this world but which has no place in a serious ST journal.

S J Pitts

The Forum pages are a regular feature of ST Applications, enabling readers to exchange ideas and help each other out with problems. Whilst we attempt to briefly answer questions here, if you have additional information or ideas please do submit them for publication. What you consider to be trivial information can often be of condiderable use to other readers!

Please send your letters on disk if possible. Disks will be returned with a PD of the writer's choice. Longer submissions may appear as articles, in which case you will receive payment at our standard page-rate.

Key:

The following codes are used for each Forum entry:

J Pringle - Forum STA 20: Author who first raised the subject, and in which issue.

Q Question

A Answer

I General information or 'Input', advice, discussion, hints and tips, etc., with or without reference to previous Forum pieces.

● Editorial reply

Pirates

I I read with interest and some puzzlement your article Piracy Latest in STA 27. The first thing that made me raise an eyebrow was the value attributed to the seized software. £740,000? Really? If all the titles were sold at full price I suppose it is just possible, but the whole point of pirated software I imagine is that it is a lot cheaper than the real thing, otherwise why would anyone buy it? Now I am not saying that it is all right to deal in pirated software - I don't think it is, but I have my suspicions about the rather sensational way that FAST and others present the problem.

I probably lead a very sheltered life but I have never, to my knowledge, seen pirated software for sale in this country. However if you want to see what real pirates are like a trip to the Golden Computer Arcade in Sham Shui Po, Hong Kong, would be fascinating. The audacity and scale of it is amazing.

I am sure there is piracy here and that it must be irritating to the publishers and authors but I suspect that its scale is greatly overstated. FAST has every interest in exaggerating the problem, in the same way that Life Insurance salesmen have an interest in overstating the dangers that surround us. The more publishers believe that there is a pirate round every corner, the more likely they are to subscribe to FAST. Could this go some way to explaining the outrageous raid(s) on the Southwest Software library and the appalling drivel reported in Going On Line about the danger posed to both the software industry and civilisation as we know it by Bulletin Boards. The scope and reality of the "threat" has nothing to do with it, the desire to be seen to be dynamic and effective might well have.

Anyway we will soon see. With three quarters of a million pounds of hot software off the streets the tills should soon be humming in the High Street. Or maybe not.

Nicholas Lintott

● The truly telling fact about the effect of the levels of *accessible* pirated software in Glasgow is that the legitimate computer games retail sector has been reduced to just one shop. A city the size of Glasgow should be able to support at least half a dozen shops with a combined games turnover of *at least* £3,000,000 a year. The FAST raids came after a number of retailers had visited car boot sales and found not just pirated software being sold openly, but also that they were unable to get any worthwhile help from the police or Trading Standards in closing down these stalls. The Glasgow Barrowlands raid was a high profile event intended to prove that the archaic laws that pirates hide behind can be turned against them, and most importantly, to put the wind up anyone planning to set up shop at car boot sales and similar events.

No-one really expects FAST to put an end to users swapping software - but to turn a blind eye to the open selling of counterfeit software (and music tapes) would be a highly dangerous move. You may not be too upset with a duff disk of pirated software, but in India and destinations further east it is not uncommon for people to be killed in epidemics of contaminated food being passed off as reputable branded products. Very audacious counterfeiters.

Falcon Feedback

Piper - ECTS Report STA 23
John Watkins - Forum STA 24
Britt Johnstone - Forum STA 24
Alistair Bodin - Forum STA 25
John Watkins - Forum STA 25

I I have been designing hardware and software for 68K series systems since the first preliminary data sheet was issued in 1979 and over the years I have seen many misleading magazine articles by those who have simply never had the time to study microprocessor architectures in depth. As far as the Falcon is concerned, this misleading tradition is reaching new heights in many magazines at the moment. However, ST Applications is far more accurate than the rest.

A leading ST magazine has said that the sound chip is mapped in a different way; by which they probably mean that it resides at a different address. They say that access to it causes a bus error. Well so it should, if you try to access something which isn't there any more because it has been moved to a new address. However, this will only happen if programmers insist on bypassing the operating system and accessing the hardware directly. This insistance comes as no surprise when you consider that the facilities provided by TOS functions such as DOSOUND are rather limited.

If the Yamaha chip has simply been moved to a new address, then this can be easily overcome by TOS4 remapping its new physical address to a logical address the same as its old physical address as soon as the machine boots up and only changing it to its new physical address if specifically requested to do so by new Falcon application software. The 68030 can automatically change any address to almost any other address because it has got an MMU.

The 68030 MMU is a proper Memory Management Unit; it is nothing to do with the wrongly named MMU in the ST. The ST MMU is little more than an address decoder, DTACK and Bus Error generator on the same chip as a DRAM controller. It would take more than the space of the Forum pages to explain the architecture of MMUs, so I'll leave it there.

However, I would be surprised if the old Yamaha chip was still there. Surely Atari wouldn't want to push up the cost by using three sets of sound systems, i.e. the Yamaha chip, the STE digital 8-bit stereo system and the new Falcon 16-bit eight channel system.

The Yamaha chip wouldn't need to be there to allow the old ST software to work even if a rogue program tried to access the hardware directly. This is because the 68030 TOS4 bus error handler could either ignore accesses to the specific Yamaha addresses or simulate the Yamaha chip. The bus error exception handler needs to be written in such a way that when a bus error occurs, it compares the address which caused the bus error with the old address of the nonexistent Yamaha chip, and if it matches it deals with it, but if it doesn't then it just proceeds with normal bus error processing. Note: A standard 68K processor cannot do this because it cannot properly return from a bus error exception.

The 68030 can ignore accesses to the Yamaha addresses by simply returning from exception to the instruction after that which caused the problem, having altered the appropriate register or registers and supplying dummy data if it was a read bus cycle. This would result in no sound output but the ST software would still run.

With the 68030, TOS4 could simulate the Yamaha chip by converting all write accesses to it to perform similar operations on the new Falcon sound hardware to generate similar or better sounds and by converting data for all read accesses from appropriate data obtained from the new sound hardware.

The 68030 is able to do this because it is a Virtual Machine. Note: This is not the same thing as virtual memory, which some readers may have heard of. A virtual machine has to have virtual memory capability but it is more than that. A 68030 virtual machine can easily pretend to be any other 68K series computer system with a 68K processor surrounded by completely different hardware. Any appropriate software written for that different hardware will still run without modification because the 68030 can simulate all the nonexistent hardware.

To explain the workings and further advantages of a virtual machine would take a complete article and the same goes for virtual memory so I'll have to leave it. (Apologies to those who are just getting really interested.)

Note: The 68010, 68012, 68020 and 68030 are all virtual machines but the original 68000 wasn't and neither was the 68008. The 68010, 68012 and 68020 require external MMUs and the 68030 has got a built in MMU on chip. The 68040 and 68060 are not true virtual machines but they come close and they have got MMUs on chip. A 68040 or 68060 could still be used to simulate ST hardware but it would require more software effort. Motorola needed to cut something out in order to free up more silicon for the floating point unit and for more pipelining and other speed enhancements. (But that's another complete article - apologies again.)

In addition to the sound hardware, any other incompatibilities of graphics, keyboard, joystick, cartridge etc. can be overcome by simulation even if the old ST programs attempt direct access to hardware and bypass TOS.

The time penalty for simulation as described would be miniscule and more than compensated for by the higher speed of the Falcon. In fact to make the old games playable some of them would have to be slowed down by deliberate time delay software and giving the user a choice of speeds on boot up.

The only situation where simulation time penalties might become significant is if Atari has changed the layout of the 4 bit planes for the low resolution screen mode and the game directly accesses screen ram. Why should they change it? Even if they have, the time penalty would probably be acceptable on fast games and not even noticeable on games such as Dungeon Master.

Some readers may think there is a problem with the MOVE from SR instruction causing a privilege violation. On the 68010 upwards, this was made a privileged instruction and the new instruction MOVE from CCR was introduced. This is not a problem because the privilege violation exception handler can simulate it. In fact the code required to do this is trivial.

So! Because the 68030 is a virtual machine, it can easily pretend to be an STFM or an STE and could be automatically switched into this mode on boot up and only switched out of it by a user or by a program or by a desktop.inf file. In this way, it could be made to run any old ST games without modifying them. The virtual machine software could be in rom or it could be loaded from disc during the boot process, then pause and ask for the game disc.

It has been reported that Atari are doing something about the sound chip, but why have they left it until now as an afterthought and why not go all the way and make it behave as a virtual STFM or STE?

It has also been reported that Atari UK never claimed downward compatibility. Well, one can't expect them to know about these things because they are not engineers, they are marketing people who would be very unlikely to have the opportunity to find out. Engineers at Atari USA probably haven't even had time to think about it because they've got management on their backs pushing them to get the thing out of the door so that they can get a return on the investment as soon as possible.

I'm sorry if the above leaves some readers behind. It is not their fault, it's just that there simply isn't the room in a letter for a more detailed explanation with attendant diagrams. However I'm sure most readers will be able to follow it and be interested in the information.

Dave Ansell

Falcon - Predator or Prey?

Michael Baxter STA 25
CIX comments Forum STA 28

I Whilst I agree with much of David Link's contribution (and echo everything that Steve Pedler says about HiSoft and their support of the ST) I would take issue on one thing - 'I certainly don't want to play ST games on it - STs are quite good at that'.

Most of us do not have the space (or the disposable income) to keep two or more machines. I am most interested in the Falcon in the hope that the type of games that I like to play (sports simulations, adventures and strategy games), which seem to have all but disappeared from the ST marketplace, will be ported to the new machine. However, in addition to being most anxious that all my existing serious software, and associated data, can be moved over, I would also like to continue playing those games that I have not yet got bored with (eg. Railroad Tycoon, sundry Infocom, Sierra, Magnetic Scrolls). Unfortunately very few companies offer an upgrade path (in fact Sierra are the only ones I know of) and most of us are unlikely to be able to afford to duplicate our existing collections even if the games were available on the Falcon.

All of which will most certainly turn out to be moot if Atari make as big a dog's breakfast of marketing the new arrival as they have done of every other machine since 1985. Oh well.

S J Pitts

DSP Fundamentals

William Hern - STA 27

I Anyone wishing to understand the principles behind digital audio and digital signal processing may well be interested in a book called *"The Art of Digital Audio"* by John Watkinson; published by Focal Press in 1988 (ISBN 0-240-51270-7). It goes into quite a lot of technical detail, but this can be largely passed over to gain a good idea of the main concepts. I started reading this book and found it so gripping that I finished it the same day. This is unusual for such a weighty technical volume!

There is a companion book, *"The Art of Digital Video"* by the same author. The catch is that these books cost something like £40 each! (Time to visit the local public library?)

Chris Isbell

I I was interested to see William Hern's article on Digital Signal Processing in issue 27. However, a bit of gibberish appears to have crept into it. While I don't wish to discourage such articles by criticising, I feel I must come to the aid of beginners who are probably totally confused or misled.

The part which was in error was in the second paragraph on page 26 and was concerned with Bit Reversal. Most readers probably noticed that 61 in binary is NOT 111011 but that is not the point.

The point is: Bit Reversal means what it says, it does *not* mean bit inversion where zeros & ones are changed to their opposites. Bit Reversal means that the bits are used in reverse order. ie. The bits on the left are swapped with the bits on the right. In other words; to Bit Reverse any binary number, just write it down and turn the page upside down.

The reason that Bit Reversal is required is that when doing an FFT the data samples are not required in sequential order, but the order that they are required is that which is given by an incrementing counter whose bits are reversed. (Note: an incrementing counter whose bits are inverted simply counts backwards.)

Incidentally, the way Bit Reversal is implemented on the DSP56001 is by adding with reverse carry, i.e. the carry is propogated along the bits from right to left instead of left to right. This is equivalent to Bit Reversal because the most significant bits behave as the least significant bits and vice versa.

Dave Ansell

TT Games

Michael Baxter - Forum STA 28

A In response to the question posed by Michael Baxter in April's issue of ST Applications, as to whether it is possible to switch the speed of a MegaSTE to 16Mhz, with cache enabled and then to allow an autoboot disk to run: well, I can answer this question with a positive YES!

To achieve this is quite simple with a few Public Domain/Shareware programs. There are several programs available that allow the switching of the MegaSTE's speed, these include "AutoCPU" by Drew Cowan and "MegaSTE configuration set" by John Townsend. Both these collections of programs are available from the ST Club on disks UTI.197 and DMG.30 respectively. The only other program that is needed is "DC Boot it!" by Double Click software, also available from the ST Club on disk DMG.24.

To run a program at 16MHz, with cache enabled (there is no point in just switching to 16MHz as there is no speed gain in real terms), boot-up the MegaSTE as normal, although it's probably best to have no accessories and no auto-boot programs installed, then switch the speed to 16Mhz with cache enabled using one of the aforementioned programs; now run "DC Boot it!", insert the autoboot disk and, hey-presto, one autoboot program running at increased speed.

Programs that do work well with this procedure are Microprose's "Formula One Grand Prix" - this is excellent, with very smooth screen re-draws - and "Gunship", also by Microprose. Programs that use a lot of vector graphics may also benefit from this.

There is one drawback however. As the program is now effectively running twice as fast, some operations are only given half the time in which to respond. One example of this is disk response time: this will now be cut in half, causing serious problems for some programs.

While still on the subject of the Mega STE's does anyone know if it is possible to replace an external 1Mb floppy disk drive with a 2MB drive but using the casing from the old 1MB drive without any problems?

Russell Thickings

Learning Programming

Andy Taylor - Forum STA 28

I Andy says that he would like to learn to program so that he can put something back into the Public Domain in return for the use he has made of PD software. I have had just these thoughts and would like to suggest some alternatives.

If you would like to place something in the PD then it doesn't have to be programs.

Stein Jensen has spent a lot of time and effort categorising and converting PD clip art and printed the images in a clear A5 format using Calamus. These pictures are available from the ST Club on the "CAT.xx" and "CAD.xx" series of disks.

There are hundreds of fonts available in many different formats and if you own Jeremy Hughes' excellent Fontkit Plus you can get started designing, editing or converting GEM fonts, downloadable printer fonts or ST screen fonts to name but a few formats. If you pockets are fuller you could use Genus, Didot etc. to do the same for high end DTP applications such as Calamus or PageStream.

The ST Club distributes many disks which contain text files containing information of interest to ST users such as product reviews, user guides etc. You could consider making a contribution to a PD Disk Magazine such as STEN (see their ad in the Authorware section of STA).

My own personal contribution has been in the form of icons for use in alternative desktops, although I would like to create a decent font or two. Designing, creating, drawing and editing a top class font must take as much time and effort, if not quite the same skill, as producing a small program/accessory for the ST and could give a user just as much pleasure. It also imparts a feeling of pride on the creator!

As it says at the beginning of every issue of "ST Applications", "everyone reading this magazine will have something to contribute". So get to it, all of you!

Paul Kenny

Basic Problems

Fred Fee - Forum STA 28
Paul Cuthbertson - Forum STA 28

A Fred Fee's immediate problem is probably one of syntax (although he doesn't say in what way the code given will not work). The correct syntax of what he is trying to achieve is:

```
PRINT "This action is ";
OUT 2,27:OUT 2,"p"%
PRINT "VERY DANGEROUS";
OUT 2,27:OUT 2,"q"%
```

The main things to watch out for are the commas after the 2 in the OUT statement and the case of the p and q in them. However, I can see no good reason for using the OUT statement at all and would recommend:

```
PRINT "This action is ";CHR$(27);"p";
PRINT "VERY DANGEROUS";CHR$(27);"q";
```

This also has the advantage of being more obvious and more portable (it works in GFA Basic too).

If the above still do not work (they do on my machine) then there are two other possibilities that spring to mind since the reverse video effect is being achieved via the built-in VT52 emulator.

First, is the VT52 emulation switched off (for instance via a desk accessory or AUTO folder program)? I believe that Quick ST offers the ability to switch off VT52 as a way of speeding up TOS screen output, and there may be others.

Second, are you writing to a GEM window rather than the TOS screen (I don't know whether this is likely or even possible in HiSoft Basic because I only have the version from the ST Review cover disk)? If you are it almost certainly will not work because VT52 emulation does not get involved in output to a GEM window (try getting the above code to work in the original ST Basic or Fast Basic for instance).

S J Pitts

A This is the easiest way to print inverted text in a window in HiSoft Basic. At the top of your program include the line:

```
LIBRARY "gemvdi"
```

Just before the line that does the actual printing insert the line:

```
vswr_mode 3
```

Immediately after printing the text include the line:

```
vswr_mode 1
```

This restores printing to normal. The method you listed only works in .TOS type programs.

Andee Graves

Q I am using GFA Basic 3.5 and am in a bit of trouble. I am thinking of writing an accessory or program for printing, and I have no idea whether or not I need to tell the OS that I am opening a new program, and whether I can use absolute screen co-ords to print at - eg:

`PRINT AT(25,8) "Hello Everyone!"`

I am worried that under Multi-TOS my program will start writing in other people's windows!

Secondly I have a great deal of trouble with the MALLOC command: the largest amount of memory that it will give me is 32K. At the moment I use an array, each cell being 32K to handle large files.

The "Ten Rules for PD Programmers" was very truthful and amusing, but maybe it could be turned to serious use. Many PD programmers do not include several features mentioned because they don't know how to write programs to use them. For instance, how do you write a program to use editable keyboard shortcuts, save a configuration file and then change the menu-headings to include the new keys? Not many commercial programs allow you to edit their shortcuts!

Finally, does anyone know how to include support for delta row compression (used in some HP printers)? This only sends data that has changed from the last row printed, and I think that they can only use this in graphics mode.

Adrian Bridgett

GFA Books

Q I would be grateful if you would ask in the pages of ST Applications what books on GFA Basic your readers would recommend. Please bear in mind I know absolutely nothing about programming. All the books I have managed to find are reference books where the author assumes at least some prior knowledge of programming.

Andy Taylor

Fast Basic to GFA Basic

Q Does anyone out there know of any tools to assist in converting Fast Basic code to GFA Basic? I am on the verge of writing my own conversion routines and would hate to discover that this had already been done!

S J Pitts

Basic Talking

Q The most useful special feature of Fast Basic to the business user was the speech module supplied with it - when it worked.

Even for the computer-illiterate, the ability to get the computer to read out figures previously entered, enabling a check to be made of previous entries without constant reference to the screen, was magic.

The problems were three-fold: firstly it was slow; secondly (and most importantly) it caused random program crashes; and thirdly it does not work with the Mega STE: possibly it needs a further set of codes to load, as it did for the STE.

Why on earth does no other software company fill this need? Atari computers are meant to be good for music; and are now supplied with all kinds of speaker stereo outlets. Cannot someone do something about exploiting these for the badly done by business user? Please?

What is badly needed is a speech module which can be activated simply from one of the main basic languages - such as HiSoft.

Frank Selkirk

● You could probably string something together with a sound sampler from Microdeal - I think that most of their sampler packages include example code for playing samples from within a selection of programming languages. STOS Basic includes its own sampler, STOS Maestro, but it is difficult to recommend STOS for business applications. The major problem with developing an application of this type for the ST is that the samples are going to occupy a fair amount of memory and disk space, and the processor time to replay the sounds will be substantial. (Restricting the playback to the figures 0 to 9 for the simple application you mention would be less problematic.) This is really the sort of application better suited to the Falcon, and with HiSoft working of on a version of Superbase that will support sounds and graphics there may be something on the way from them for Basic and C programmers.

Q Can somebody please write an extension for STOS or Hisoft Basic to provide voice synthesis? Fast Basic (remember that?) used to have a voice module that could be accessed from within a program. There is also a voice synthesiser in the public domain, and I suspect that to adapt either one of these would not be a major task to a competent machine code programmer (which I am not!). A Fast Basic cartridge and manual free to any takers!

Derek Saddigton

Old CFNs

E P Cox - Forum STA 28

A E P Cox writes about problems using "old format" Calamus fonts in the Demo version. You don't need to splash out on Genus, Didot or Fonty (although Fonty is excellent value). Font Converter on ST Club Disk FON.24 can do the trick for you. I suspect that all it does is to alter something in the file header and leaves the vector graphics data alone.

Paul Kenny

Still Video Cameras

Dr. J M Bowsher - Forum STA 27

A The problem with using the Canon RC-250 Still Video Camera is the original design concept was for use with a PC supporting a compatible digitiser card. Although the HCS catalogue suggests that using a colour monitor would allow you to "shoot-and-show", unfortunately the answer is not so simple.

Firstly, and situated in the (very) small print, a mention is made to the RC-250 being "not compatible with (UK)PAL video equipment". Having evaluated this some time ago for possible use with Atari ST & TT computers, I discovered that HCS are in fact a US based company and the RC-250 turns out, not surprisingly, to be US equipment. The UK equivalent is the Canon Ion PC which although being more expensive does at least offer compatibility with PAL video equipment and is considerably more highly specified. With regard to the method of interfacing the RC-250 and Ion both use S-Video and therefore cannot be used directly with any computer without some form of digitiser card to support this video standard.

On a brighter side, Titan Designs are in fact developing a True Colour, Real Time capture Digitiser Card (called Expose) for use with the Falcon 030 and, with an optional cartridge adaptor, STs and TTs. Expose will handle all conventional video standards and it will be possible to use either the RC-250, Ion, or a conventional video camera, VCR, etc, for use as input.

Following on from the Expose Digitiser and depending upon the success of the Falcon 030, we will then be developing a Genlock unit (called Fresco) to afford full compatibility with Expose. Supporting software for Fresco will allow "Exotic" titling affects, such as Marble, Glass, Wood, etc. (you see these effects splashed all over TV), animation, scalable picture-in-picture (PIP) amongst others. As usual, Titan Designs' pricing of in-house developed products will not mean having to pay the earth to realise all the benefits that can be afforded by True Colour video equipment.

David Ensill
Titan Designs Ltd.

Unsquare Blocks

John Masterman - Forum STA 27

A For low res use the jack-knife in good old NeoChrome.

John Phillips

A Mr Masterman doesn't say what resolution he wants to work in, but for mono 'PAD' on DRG.43 certainly does what he wants if he uses the "lasso" function. If he works in another resolution, try saving off through Imagecopy and back-loading into another program - fiddly, yes!, but it works. A word of warning! PAD doesn't like IMG files saved from other programs but other file formats seem to be okay.

Jack Trollope

A Butterfly Artist is capable of cutting and pasting irregular shapes through its 'Lasso' function. Unfortunately it's not the easiest program on earth to use thanks to the German instructions. The following should get you up and running:

With the graphic loaded, click 'Lasso' from the main screen. Select 'Ausschneiden' from the resulting menu and draw around the required block while holding the left mouse button. When the shape is complete press the right mouse button and the menu should reappear. If you want to paste the block in this part of the screen choose 'Setzen'. Otherwise return to the main screen (with the right mouse button), move to the correct area on the virtual page, select Lasso again and then choose 'Setzen' - your block should now reappear from the paste buffer. Believe me - it's far easier than it sounds!

Nial Grimes

A John Masterman asks if there are any art packages in which an "uneven (i.e. not square)" cut can be taken. I'm not sure that either of these packages can help as it appears the John wishes to take cuts from images larger than the standard ST screen. However, Monochrome, an art package from Norway, features a facility entitled "Polycut" in which part of an image can be copied as a block by drawing a polygon around the appropriate area (clicking around it). The image can then be copied to a new place and manipulated using a wide variety of options.

You could always work on a large image a section at a time using this package; I often find that I would rather use Public Painter to perform an operation on a part of a large image that I am manipulating with Megapaint.

A demonstration version of Monochrome is on ST Club disk DEM.62. I am not aware of a UK distributor or if a full version was ever produced.

Public Painter also allows you to "lasso" part of an image. The other package that I am thinking of is Deluxe Paint which enables you to draw around a section of an image and cut or copy the block and perform a variety of impressive manipulations. Of course Deluxe Paint works only in low resolution so I expect that this is not what is required by John. I have often wished for a high res version, but as Electronic Arts abandoned the ST some time ago, I think that it will remain a wish.

Paul Kenny

Yamaha TX16W Disks

Hallvaro Tangeraas - Forum STA 27

A Hallvaro asks if he can use his ST to copy the disks for his Yamaha sampler which uses MSX-type disks. If the disks are of the 80/82 track single/double sided variety then you could consider using a "Blitz" set up. You need two drives and a custom lead to make the necessary connections. Power Computing offer made up leads for about £25.00 but you can make your own for slightly less by following the instructions on ST Club Disk INF.37. I have been successful in copying Amiga disks using this system, and so if MSX follows the basic format (as above) it should work. The only problem is that the disks cannot be verified as they are copied using this system. The up side is that copying is very fast. You would have to experiment to test reliability, as if you had to check out every disk on your TX16W, it would defeat the object of the exercise.

As a friend of mine owns a TX, I will soon be able to check if this works and I will write again to STA.

Another alternative if you wish to distribute your samples commercialy, is to offer them in a format that users of other samplers can make use of. "AVALON" from Steinberg is a popular and powerful sample editing program for the ST and you may be able to pick up version 1 cheaply. Data transfer from the TX16W is quite fast by comparison to some other samplers and it is then a matter of saving the sample(s) to floppy disk in Avalon's proprietary format. Your disks can then be easily duplicated on your ST using a program such as "FCOPY". The disadvantage of this of course is that users of other samplers will not be able to benefit from the settings of the TX's powerful and versatile filters. However, you will increase your customer base.

Paul Kenny

A I believe that MSX disks are in CP/M format. I recently sent a program to John Ellis (Programmers' Forum) that reads CP/M disks produced on an Amstrad word processor. This could possibly be modified to reproduce MSX format disks. More information on the exact requirements and some sample media (ideally containing a few smallish text files) would be helpful.

A A friend of mine is currently using a Turbo R (MSX 3) which happily reads MS-DOS disks. This doesn't say a lot for older MSX formats, but it does suggest that the low level format will be MFM, as used by the ST. Try using a low level back-up utility, such as the shareware Diskmech or ACopy if you can find it. Neither are guaranteed to work, but are worth a try.

Nial Grimes

Progate Corruption

John Henderson - Forum STA 27

I I had the same problem myself but in colour: the ST would suddenly drop into 60Hz mode. This was obvious on my old wreck of a Thomson but might go unnoticed on a more modern monitor. I contacted Protar and there was much arcane muttering about 9 microsecond spikes, dark words spoken over the video shifter and a new cable in the post the next morning. Excellent service and a faultless drive ever since.

John Phillips

- Don't you just hate it when that happens: Protar Germany have closed their UK office and expect dealers (and end users?) to deal direct with their German office.

Spectre GCR

R Chiswell - Forum STA 27

A Steve Cooper's Macintosh DeskJet driver is happy to drive the parallel port. Assuming you're using version 3, set the 'Printer' option to 'Parallel' in Spectre itself, and then using 'Set-up' from the Macintosh Chooser activate the printer shaped icon. Macintosh applications should now use the parallel port and I would imagine the speed will improve too.

Nial Grimes

Hot ST

Andy Taylor - Forum STA 27

A I had a similar problem a while back. I bought my 520STFM back in 1987 and it stayed in its original form for years. Living in Germany I have access to a wealth of add-on's. My first buy was a hard drive, a 52MB Quantum drive with a case as big as an external 5.25" drive and the power supply is built in. When the exchange rates went crazy I finally decided to go all the way and bought a 4MB Marpet RAM upgrade, a 16MHz HBS210 processor upgrade, TOS 1.4 (German) NVDI 2.11, and a DeskJet 500. I was well chuffed with the performance. The CPU speed averages 167%, and as I know the desktop the German language ROMs aren't a problem.

But my new problem was that my ST now had about 20 extra chips in its case and they all require power. I found that after a while the computer would crash and just lock up; if I switched off for a while I would get another half hour or so and then it would crash again. I found that the plastic case in the area of the PSU would be really hot and concluded that the PSU was being driven beyond its rated output. My solution was to remove the PSU from the case. I made an extension cable and now the PSU sits behind my ST in free air and it doesn't get a bit warm and I can use the ST for as long as I like. I intend to either place the PSU in a case - making it safer - or getting a PC PSU with a higher rated output.

For your information the HBS210 accelerator board uses the Toshiba TMP68HC000P-16 cpu on a multi-layer board that is only just bigger than the chip. It incorporates a 16KB Cache and supports a fast ROM option. The TOS 1.4 was patched in Oct 90 and I think they've been blown locally.

Needless to say I'm chuffed with my set up. I use PageStream and the screen redraws with Adobe type 1 fonts are a lot quicker.

Thomas Steed

A Further to my letter that was eventually printed in issue 27 of ST Applications:

Unfortunately, by the time my letter was published, I was getting rather fed up and, following a phone call to a helpful fellow called Ian, who had an item in the classified section of ST Applications, I decided that despite getting a lot of helpful assistance I was getting nowhere fast.

I therefore decided that the only course of action was to speak to Marpet Developments who had taken over Frontier Software. I was asked to send the computer to them for checking.

The need for urgency was conveyed to Marpet Developments and they returned my computer after a couple of days, together with a note saying that the board had been tested and a small fault had actually been found and a replacement fitted, but that the Memory was also faulty. (This was supplied by a different company.)

Marpet had fitted four 256K Ram Boards (on loan) to enable me to continue with the production of a Newsletter that I edit for a National Shooting Organisation. They also advised that I should return the faulty SIMMs to the company that I purchased them from. This was done but despite a lot of phone calls to this company I still had not got my memory boards some two weeks later. I was beginning to get suspicious when I was being told things like "Yes, we have had a delivery but the boards are too thick", and in desperation I phoned Marpet and spoke to Martin Walsh.

I explained the situation to Martin who without hesitation sent me four 1MB SIMMs and said he would sort out the technicalities with the other company.

What service! Above and beyond the call of duty, I would call it. I for one would not hesitate to recommend Marpet Developments to anyone.

Andy Taylor

Redacteur 3

I I had a problem with page lengths in Redacteur's Graphprint module - page 1 would print out ok, but as soon as page 2 was put into the printer the page would advance anything up to 2" no matter what A4 settings were tried. Most annoying!

The solution - for those of you using A4 single-sheet paper on Star XB printers (which normally leave a vertical offset of 1" corresponding to 6 lines of text at the top of the page) is as follows:

In Redacteur, set up the printing parameters like this: 12 Pts - 6 lpi. Top of form, header, header margin, footer, footer margin all set to zero. Set the 'bottom of form' at 4 lines. Leave the 'printing offset' at 00 mm also. Now, most important of all, don't click on the box that says 'A4 2970' but set a user paper length (next to the '?') of 2630 mm. This will give the number of lines on a page as 58 and a sum total of 62 lines, just above the 'confirm' button.

Using the above settings when the text is saved and imported across to Graphprint will give perfect results every time - with no loss of '.8" depth at the top of the page' as mentioned under Hints in the Readme file.

I do hope that you can find a slot in your magazine for the above information - it should certainly help users of the program who may have taken to the bottle by now in an attempt to solve the page length problem. As they say, it's simple - when you know how.

Peter Harris

Q With Redacteur, my BJ10e will sometimes print background highlighting. This is great, but I don't know how it is achieved. Can anyone enlighten me about this? (There is an Esc code for highlighting, but it doesn't seem to work when I try it.)

John Henderson

● Without more information on the circumstances it's nigh on impossible to work out what is causing this. It is not available as a text effect in graphics mode printing - but in text mode it will be simple to edit the printer driver so that highlighting is used in place of the relief or inverse text effects.

ST Book

I Right at the outset I must say that I have not seen an ST Book, but having read three reports on it including one in depth one, I wonder why the reviewers rave about it so much.

True, it has some good battery-saving features built in, but the long battery-life is really gained at the expense of other features. Although battery-life is important, it is not the be all and end all. Even the most enthusiastic Yuppie doesn't want to sit playing for the full eight hours of a train journey.

If you have ever tried to look at an LCD television screen in sunlight you will know that it is impossible to see the picture. All you get is a shiny black screen. That is what the screen of the ST Book will be like in the sun, an important point because the whole idea of a portable is to use it in places other than the ideal conditions at home. Therefore a backlit screen is necessary to reduce the occasions when you can't use it.

Secondly, it has no built in disk drive, thus saving battery life, but when you plug in the optional extra it is going to start reducing the battery life.

Another important omission is an external monitor socket. They did fit an external keyboard socket, so why not a monitor socket? Probably because they expect you to transfer your work from the Book to your home ST, but with a monitor socket that wouldn't be necessary. You could plug in your monitor and do all your work from the portable in comfort, and save a lot of time.

I consider the ST Book to be overpriced. I have been looking at PC portables recently. In a review of ten portables in the £1400 bracket the one that came out top was not the most expensive. It was a machine which cost £1300 and for that money you get a backlit screen, built in 1.44MByte floppy disk, 2MByte of ram and a 60MByte hard disk, including the autosensing power pak/charger.

Having looked at the specs of the PC's and the ST Book I would choose a PC every time. I would be getting value for money, and once having bought a PC portable what be the next logical step? You've guessed it, upgrade my home computer to a PC, and that is one more ST customer lost.

At £1500 for 1MByte of RAM and a 40MByte hard disk plus extra for the floppy drive and extra for the power pak, I think Atari have done themselves a disservice.

It is all very well aiming a machine at an influential minority market at fancy prices but the bulk of Atari customers are home users, and they are the people that Atari needs to keep sweet and loyal to the brand. With this machine they aren't doing that. What happened to power without the price?

E C Barton

● Apart from a few sales in the music industry it looks as though the ST Book has been a deserved failure for Atari. Well specified PC notebooks with a hard drive, HD FDD, and monitor/video expansion ports now sell for under £750. The ST Book is now rumoured to have been sent back to the drawing board for a re-design - some sources have claimed that the ST Book's screen was only usable in a recording studio when used along with an angle poise lamp! In the current climate it may be some time before we see another portable ST: Atari should by now be concentrating their minds on getting the Falcon030 into the shops!

With the benefit of hindsight it must be said that had the effort wasted on the STacy, STylus, and ST Book flights of fantasy been put to better uses Atari may have had the Falcon on the market for over a year and the rather pointless MegaSTE stage could have been skipped altogether. Had Atari not promised a portable it's sure that someone (in Germany?) would have come up with a re-cased ST for the music industry. Similarly, Atari could do worse than to sub-contract the design and build of a separate keyboard version of the Falcon030 to stave of the demands for one before the Falcon040 is truly ready.

Thanks

I Warm and generous thanks to R L Tufft for his tip about putting an emitter follower buffer in the strobe lead from the ST to the HP DJ500. 20 pence worth of parts and 15 minutes of time (honest) has solved a silly, frustrating problem for me and no longer do I need that DJ Reset in my Acc.menu!

I must make the point - where else would I have found such a valuable bit of advice, other than in "ST Applications"?

The review of Easy Text Professional is also right on the nose. My friend Mike Goodman of Goodman Enterprises advised me over a year ago to wait for it - and he was right. One of the software bargains of the year. One small problem, slow printing on the HP DJ500, was completely cured by FPPRINT.PRG; but oddly, does nothing for my WP, Write On!

Reg Williamson

DeskJet and GFA

A Other possibilities for checking printer status in GFA, besides GEMDOS(17), are BIOS(8,0) or the keyword equivalent OUT?(0), but first of all check out the printer lead. One problem area with all these calls is that the ST seems unable to distinguish between 'on-line' and 'off-line' until it has actually sent a character to the printer. In some circumstances these calls return TRUE regardless of the 'on-line' status.

One useful technique is to send a character to the printer before a GEMDOS(17) call. The character you send should be of no consequence. Favourite would be to send the 'software' on-line code (OUT 0,17 on my printer) as this covers the chance that something has switched it off, a possible cause of data being dumped. No idea if this works with the DeskJet, but might be worth investigation.

John Phillips

Wot, No ARJ?

Q Does anyone know when the full version of ARJ - a compacter that is as good as LZH but packs in 2/3 the time - is coming out on the ST?

Adrian Bridgett

Hard Driving CP/M

Q I use HiSoft Nevada COBOL which runs on the ST under the CP/M emulator. Does anyone know if it is possible to copy CP/M files/disks to a hard or ram disk? Or if this is not possible, does anyone know of any other COBOL compilers available for the ST, or shall I get a PC emulator?

Paul Forbes

Stitching Aid

Q Please do you know anyone who sells programs to do with Bobbin Lace making or X Stitch Patterns, or indeed any Needlework Hobbies?

Mrs Wilson

Wish Lists

Q I don't know if this has been suggested before, but what about a regular 'wants' list to provide ideas for programmers?

Derek Saddigton

It Works!

I Here's a few things that worked on my old STFM. Standing in the book store reading the computer magazines I noticed that the March 93 Computer Shopper had a free disc with some Postscript Type 1 fonts and an interesting article on PC font formats. (Computer Shopper is currently crazy value for money - three or four hundred pages of magazine and a disk for £1.45!) Arriving home with the magazine the free disc goes into my Atari, I open the drive window and the font files are in PK-ZIP format, end of story usually, but I remember that ST-ZIP came from the ST Club on DMG.32 so why not give it a try, and much to my surprise the files unpack successfully on to my hard disc.

Now I have Fonty and this came with a programme that will convert Postscript Type 1 fonts (PFB2CFN.PRG) to Calamus format, and I know that trusty Fontkit Plus 4 will convert Calamus fonts into the GDOS bitmap fonts that I use in Timeworks and other GDOS applications. As a bonus I have found Fonty runs nicely from the "run other" menu in Fontkit, quit Fonty and one is still in Fontkit, not essential but very nice thank you.

I now have six more fonts to play with (they need some playing with within Fonty), and the satisfaction that something new, something I didn't expect to work, ran like a dream first time - not often on this Atari!

Mick Jackson

I A fellow ST enthusiast at the ECHO (East Cornwall Handicap Organisation) centre for the disabled lent me a copy of your magazine ST Applications issue No. 25, January 1993. It is a superb magazine, far better in content than the highly priced glossies jostling for first, second and third position on the stationers' shelves.

I read avidly "The Numbers Racket" by Bob Osola. Dug out my copy of K-Spread 1 by Kuma, re-read the manual and fed my mortgage and house insurance figures into the STE. After trying for the third time to get my figures to match the Building Society's and having no success, I telephoned them and read the STE generated figures down the line. They were somewhat sceptical and commented that their powerful computers checked and rechecked customers' accounts, but if I would care to leave my telephone number they would get back to me.

I sat by my STE for an hour, threatening to pull its plugs if it had shown me up in the face of powerful opposition. The phone rang and an apologetic Building society employee explained that they had overcharged me to the tune of £300.64 over an eight month period and they were reimbursing me with interest.

Needless to say I am grateful to ST Applications for carrying such an excellent article, and I intend buying the previous and future issues. Who knows where that will lead?

My question is that although I appreciate damage could be caused to the internal workings of the ST if peripherals are plugged and unplugged whilst the ST is switched on, should said peripherals be switched on before the ST and off after the ST? Should the ST be switched on before disks are inserted in the drives? And should said disks be removed from the drives before the ST is switched off? My dot matrix gets switched on and off willy-nilly. I do hope it's not heading for a nervous breakdown!

Dave Edgar

- Ideally the ST should be switched on last and switched off first. There used to be a warning against switching machines on and off with disks in the drive. I can't see any logic to it. It can be unwise to leave a disk in the drive as you'll spend ages looking for it the following morning!

MusicTeX

Barrie Stott - Forum STA 26
Bernard Keeffe - Forum STA 28

A I have an answer to Barrie Stott's query in the February issue of ST Applications about using a large TeX on his ST. The TeX I use these days is C-TEX version 4.0 (dated May 1992) by Christoph Strunk. Unlike the TeX systems on the PC (e.g. emTeX), C-TEX as of version 4 has a configuration file that allows the user to decide on how much memory they would like to TeX to use. This means that there is no longer any need to have variously sized TEX.TTP programs.

The configuration file is kept in \TEX\FORMATS\TEX_L.OPT and is an ASCII file that can be freely edited. There are four variables that can be changed, but probably the most relevant for Barrie Stott is the mem_max variable which can be increased up to the machine's limit. To use this facility two things must also be done:

1) using the Find Menu option in the C-TEX shell, locate the TeX version program TEX_L.TTP (not TEX.TTP)

2) and also re-generate the format files (this is under the Work [Generate] menu option) every time TEX_L.OPT is changed (which will probably be only once).

As a matter of interest, I believe that C-TEX v4.0 has since been upgraded to version 5.1 - now called MultiTeX. I haven't got the full list of extras in this new version, but I do know that it is supposed to work well under a multitasking environment (such as MultiGEM or MultiTOS) which allows one to have two windows open, an editing window and a display window which updates automatically after a TeX file has been 'compiled' - very nice. In addition, MultiTeX has been tuned to work on a TT and is supposed to have some particularly good Metafont facilities. MultiTeX is available from Maxon Computer as one of their Sonderdisks ('special disks') for 75DM:

Maxon Computer, Schwalbacherstraße 52,
W-6236 Eschborn, Germany.

Herbert Sauro

FORUM

DESKTOP DISCUSSIONS

Tempus Word Junior

Some time ago a full word processor based on the superb Tempus text editor was released in Germany, but was never marketed in the UK. Now there's a 'lite' version but it isn't available in Britain either. William Hern can't understand why.

When someone gets round to writing the definitive history of the ST, I have no doubt that they will rank the German text editor Tempus as one of the landmark applications. Launched six years ago, it stunned the ST community with its comprehensive range of editing features and lightning fast page scrolling. Overnight it became the product that all other text editors were compared against. Few could stand the comparison and Tempus has been the definitive text editor ever since.

A couple of years ago came news that excited the whole ST community - Tempus was being upgraded to full word processor status. Users drooled at the prospect of a word processor that did for word processing what Tempus had done for text editing and keenly anticipated its arrival.

When Tempus Word was finally released, it lived up to most expectations. Unfortunately it was never marketed in the UK. Potential distributors were scared off by its memory and resource demands and the failure at the time of the similarly heavyweight Calligrapher. A number of brave UK users bought copies directly from Germany but the German dialogue boxes and manuals made life difficult.

Still, the product was successful in its native Germany and in keeping with the current trend for releasing cut down versions of software, its writers, CCD, have produced Tempus Word Junior (TWJ). I bought a copy during a recent trip to Germany as I was curious to see just how good a word processor was being denied to Britain and other English speaking countries.

The initial screen of TWJ will be familiar to anyone who has used the original Tempus. The tidy set of icons are retained as is the digit clock in the top right hand corner. However, the feelings of déjà vu are shattered as a document is loaded up and fonts of various sizes and shapes appear. TWJ is WYSIWYG with a vengeance.

My chief fear was that this display flexibility would come at the cost of scrolling speed and that TWJ would crawl text up the screen at the pitiful rate of Calligrapher and certain others. I needn't have worried - TWJ is remarkably nippy (it was able to scroll through a full two page document in just under six seconds) and puts other ST word processors to shame. Its page preview mode is equally fast and is capable of displaying up to sixteen pages at once.

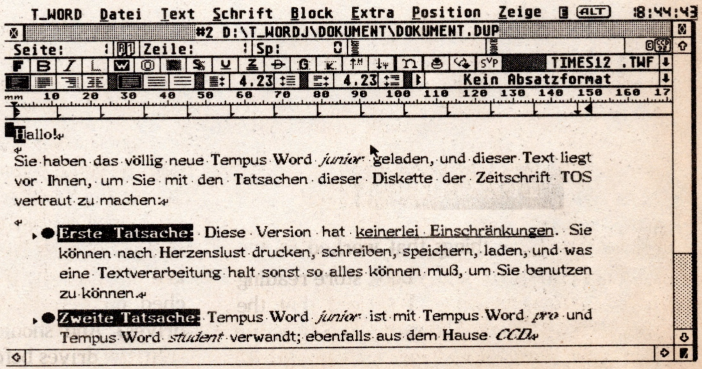
Like many of the modern Windows and Mac word processors, TWJ places most of the common text manipulation controls on an icon bar and so saves users the effort of laboriously selecting them from a menu. Font size, line and paragraph spacing, text formatting and font style are all adjustable from the four-level icon bar which also displays page, line and position information and the tab positions. The icon bar takes up a significant proportion of screen real estate but any or all of the levels can be turned off to give more room for the document being worked on.

In addition to the standard features that you would expect from a word processor, TWJ has a number of built-in utilities including print spooler, notepad and calculator. The best is the alarm clock which this writer found useful for reminding him when it was two o'clock in the morning and so time to go to bed. That said, I'm not altogether convinced about the inclusion of these utilities - I prefer stand-alone applications so that I can pick which ones to have loaded and save precious memory and disk space.

Overall I found TWJ to be a capable and very stable product. Against its competitors in the low end of the ST word processor market (Calligrapher Lite and the venerable 1st Word Plus), it does well. Its fast scrolling leaves Calligrapher Lite for dead and 1st Word Plus puts up little competition with respect to either range of features or performance.

This isn't meant to be a full review - indeed trying to do justice to TWJ's capabilities in a one-page article would be near impossible. Instead, my aim has been to highlight the quality of just one of the pieces of application software that is unavailable to British and other English speaking ST users. The arguments against Tempus Word, that it is too large and too demanding for the typical UK ST configuration, do not apply to its cut down sibling. TWJ runs in one megabyte, can fit on a single 800K disk (just) and so is well within the capabilities of most UK STs. That it remains unobtainable over here borders on the criminal.

With the release of the Falcon, the word processor market is ripe for a new leader. 1st Word Plus dominated the ST market because its predecessor, 1st Word, was the first GEM word processor widely available (at first it was bundled with the machine) and so built up a large following. 1st Word Plus is a venerable product now but it continues to sell well. The launch of the Falcon, though, could provide the right product with the chance to challenge it. In my opinion, Tempus Word Junior fits the bill perfectly - all it needs is someone willing to translate the product into English and market it over here. The rewards could be high - is anyone out there willing to take the gamble?


T_WORD Datei Text Schrift Block Extra Position Zeige
ALT
8:44:43
#2 D:\T_WORDJ\DOKUMENT\DOKUMENT.DUP
Seite:
Zeile:
Sp:
TIMES12 .TWF
4.23
4.23
Kein Absatzformat
mm 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 17

Hallo!

Sie haben das völlig neue Tempus Word *junior* geladen, und dieser Text liegt vor Ihnen, um Sie mit den Tatsachen dieser Diskette der Zeitschrift TOS vertraut zu machen:

- **Erste Tatsache:** Diese Version hat keinerlei Einschränkungen. Sie können nach Herzenslust drucken, schreiben, speichern, laden, und was eine Textverarbeitung halt sonst so alles können muß, um Sie benutzen zu können.
- **Zweite Tatsache:** Tempus Word *junior* ist mit Tempus Word *pro* und Tempus Word *student* verwandt; ebenfalls aus dem Hause *CCD*.

Programmers' Forum

In this month's edition of ST Applications' regular programming column, we look at a problem with Unix-style filenames, see how to detect whether the Desktop is active, and look into GEMDOS memory allocation problems.

Unix filenames

The first subject for discussion this month is raised by **Andrew Renton** of Suffolk:

I am trying to write a small assembler program to solve a problem I think I have with GNU C++. Whenever I try to compile a program, it seems to attempt to open a temporary file, but insists on using the Unix slash (/) convention rather than the ST/PC convention (\), which of course fails.

Not having any documentation on GNU C++ to say whether there is an easy way around this, I thought I'd write an assembler program to trap all calls to GEMDOS, and check that any filenames contained the right sort of slash.

Using your own articles and the Traps for the Wary series, I am some way to achieving this solution. I successfully implemented a program which just beeps then calls the original vector whenever GEMDOS is called. When I try and implement the bit that checks the call parameters and run it from the desktop, all I get is several bombs and a crashed machine.

If I run the same program from within my debugger (MONST supplied with Lattice C), it all works fine. Not being an accomplished 68000 programmer, I am rather puzzled as to what I am doing wrong, and would appreciate your assistance.

I should start by saying that I have never used GNU C++, so I don't know any easy way to persuade it to use the ST slash convention for filenames rather than the UNIX convention. I am sure that this should be possible: perhaps someone who has successfully used the package on the ST could help? Since this is a GNU product, the source should be available. One could try editing the source and then recompiling the package, but this might be a rather lengthy business.

A case study in trap handling: design

Assuming for the sake of argument that there is no easy way to fix this behaviour, let's explore Andrew's solution. For the benefit of those with less experience in this kind of programming, we'll consider it in rather greater depth than usual.

As always, first and foremost, we should consider the design of the solution. What Andrew proposes is a resident program that traps all operating system calls involving filenames, and doctors any forward-slash-containing path specifications, before handing the call on to the operating system for action.

Is this a reasonable suggestion? Let's consider what such a program involves. First, there are only a limited number of operating system services that involve pathnames, so it is practical to attempt to hook into these functions. Furthermore, we only need to cope with GEMDOS calls, as all other OS functions that use pathnames (such as the AES rsrc_load()), make use of the GEMDOS file-handling services.

Secondly, according to the Atari GEMDOS documentation, the forward slash is not a valid character in TOS filenames, so we should cause any problems to any third-party programs by doing the forward to back-slash translation.

A case study in trap handling: program realisation

From the above, there seems to be no obvious reason why Andrew's program should not work as he wants. The next stage is to look at the code. The original program is reproduced as Listing 1. A close examination of the code reveals the presence of several bugs:

i) The routine destroys a6. When writing a trap replacement program, it is vital to follow the register usage specification for the trap being intercepted. The GEMDOS documentation specifies that it preserves d1-d7/a1-a7, so any new handler must do so as well.

ii)The routine assumes that the arguments for the trap (the function number, pointers to filenames, etc.) will always be on the user stack. This is the case most of the time, but it is perfectly legal to call GEMDOS from a routine running in supervisor mode. In this case the arguments will be on the supervisor stack underneath the SR and PC stacked by the trap opcode.

iii) The routine does not correctly select the functions to be fiddled with - as I understand the code, the checking mechanism will allow Fclose() (amongst others) to be trapped. This will probably cause a crash as there is no valid filename pointer argument for Fclose(). Also, the code does not trap some other functions which use filenames: Frename() for one.

iv) As suggestions for improvements, to increase the compatibility of the code, it would be a good idea to take account of the value of the system variable '_longframe' (see *Programmers' Forum* in STA14) and also to use the XBRA protocol (see *Programmers' Forum* in STA11). Printing a sign-on message is also recommended: it lets users know that the program is installed!

v) A more general point: it is potentially risky for a trap handler such as this to modify the string that a program is passing to GEMDOS. It may be that the program will re-use the string in such a way that it assumes the presence of the / characters that the trap routine has changed to \. If this is a problem, one can always arrange for the handler to change the characters back after the GEMDOS call. Alternatively the filenames could be copied to a private location before modification and use.

A modified version of Andrew's program that takes account of points i) to iv) is presented in Listing 2. Most of the code is straightforward, but the technique used to select the GEMDOS functions to be processed could probably do with some explanation.

Inspection of the GEMDOS documentation reveals that all functions which accept a pathname as an argument have codes lying between Dcreate() and Frename() inclusive. So, as a first filter, we can ignore calls with codes outside this range. Secondly, Frename() is a special case because it has 2 pathnames as arguments. What we are left with then, is the problem that only some of the functions with codes in this range should be processed. What I have done is to encode whether or not a function should be processed into a simple bitmap, starting with bit 0 = Dcreate(), bit 1 = Ddelete() and so on up to bit 21 = Fsfirst(). If we need to process the function, then the bit is set, and if it is to be ignored, the bit is clear. Therefore, to decide whether or not a function should be processed, we simply test bit number (function code - Dcreate) and proceed accordingly. We also need to take account of the fact that Pexec() has its filename argument in a different place to the other functions.

Pexec() poses another problem - one of the other arguments (the command line) may or may not contain a filename, depending on the individual case. I have chosen not to process this argument, but if you find you need to, it should be fairly simple to make Pexec() a special case like Frename(). With a little thought, the program can be improved further along the lines described in v) above.

To demonstrate that the slash conversion program works, Listing 3 contains C source code for a simple example program. Assemble and link Listing 2, then compile and link Listing 3. Create a folder called 'FIX' in the root directory, and place any text file inside. Make sure this file has the name 'TEST.C'. Running Listing 3 should produce an error message if the slash conversion program is not installed. If the program is installed, the text file will be copied to the screen.

Automatic execution of programs

Continuing in the low-level system programming vein, our second letter this month comes from **Tony Wagstaff** of Romford:

Is it possible to tell whether the computer is at the desktop? I wish to install a vertical blank interrupt which, at a specified time, will run a program with Pexec(). However, if a program was already running, this might create problems, especially if that program was writing to disk or performing some other important task. So if the computer were at the desktop, the program would be executed, and if not a message would be printed. But how do I tell? The only way I can think of is to keep a constant watch on the Pexec() and Pterm() calls and make sure they match before running anything. Is there a more efficient way?

It is possible to tell whether the computer is at the Desktop, but it is a little awkward. In the most recent documentation, Atari have admitted to the existence of a system variable that points to the currently executing program. Listing 4 shows how to use this to create a program that inverts the screen on a monochrome system whenever the machine is at the Desktop. All other programs run with a normal screen. Not a terribly useful feature, granted, but it serves to demonstrate the technique!

However, I am afraid that this cannot be used to do what Tony wants. As far as I know, it is not possible to call GEMDOS from a vertical blank interrupt. The interrupt might come in the middle of another GEMDOS command, and GEMDOS is not reentrant.

The only way that I can see to do what Tony describes is to write the program to be executed at a preset time as a desk accessory. The accessory's evnt_multi() loop should cause it to be woken up periodically. It can then check the clock, and at the appropriate moment, do whatever work is required (but not Pexec() something else: see *Programmers' Forum* in STA10 for a discussion of this problem). It may not be necessary to check whether the machine is at the Desktop - it depends what the function of the program is. Listing 5 shows a sketch of how such an accessory might be written.

Users of the Gemini Desktop replacement should be able to combine the above approach with the ability to run an external program. The Gemini desktop offers the useful facility of being able to accept an instruction to run a program. An accessory could determine the time as above, and then send Gemini a message asking it to execute the main program. Once again, see *Programmers' Forum* in STA10 for more details.

Whether Tony will be able to do what he wants in a legal fashion under MultiTOS is an interesting question. This is exactly the kind of task that a multitasking shell should support.

GEMDOS Memory management

Tony continues his letter with another question:

The Malloc() call and problems therewith have been mentioned a couple of times in your articles. It seems it is best to use it only once. Could you tell me how widespread this problem is, and also if it can be circumvented? I'm currently writing a program which is basically a spreadsheet, and obviously cannot know in advance how many cells will be used, and whether for text, numbers or formulae, etc. Presumably it is best to allocate memory for all the cells, which is sensible enough, but do I need to allocate memory for all the cells as both strings and floating points, when they can only be used as one or the other?

The problems with the GEMDOS Malloc() call (not to be confused with the similarly-named ANSI standard C function) are largely to do with the number of active Malloc blocks held by a single process. Under TOS 1.0, this limit was rather low (16 I think), and if it was exceeded, the machine crashed unpredictably. Under TOS 1.4, the situation has been much improved: the limit is higher, recovery of released blocks is better and crashes are rare. The best way to get around the problem is to only call Malloc() a few times, each time for a large block, and then to use an internal routine to cut this large block into smaller blocks as required for use. This is how most implementations of the ANSI C malloc() work.

Also, two common versions of TOS, (v1.04 and v1.06), have bugs in the GEMDOS memory management code. Atari released an official patch program to fix these, called POOLFIX3.PRG. This should be available from all good PD sources. Claus Brod in Germany subjected this program to various improvements, including XBRA compatibility. His version may be found as either POOLFIX4.PRG, or (more correctly) POOLFX_CB.PRG. To complete the list of possibilities, Ulf Ronald Andersson of Sweden has produced another version of the program: POOLFX92. The latter archive contains full source code and documentation, and is available from the ST Club on disk DMG32. Pop one of these patches in your AUTO folder, and you can forget about this problem.

Learning programming

One subject which seems to appear in many of the letters sent into *Programmers' Forum* is the difficulty of learning C. Many readers have asked for recommendations of good books to read. This is not an easy question to answer, as different styles of book suit different people.

Therefore, to get a wide cross-section of opinion, I would like to invite all readers to send in their book recommendations. We will include all programming languages, not just C, as well as more general books on programming and software engineering. Warnings about books to be avoided are also welcome!

Please send full details of each book wherever possible: title, authors, publisher, ISBN and price, to the usual address. Email votes are especially welcome. The results will be collated, and printed in *Programmers' Forum* in a future issue of STA, probably over the summer.

NEXT MONTH

Next month, *Programmers' Forum* will print more questions and tips from readers' letters. Keep the letters coming in - the more we receive, the better the column gets! Hints on any subjects or questions about programming problems should be sent to the address below. All contributions, no matter how simple or advanced, are most welcome. Please include your address on the letter, so that I can get back to you if anything in your contribution is unclear. E-mail addresses are useful too.

Please send a disk (or email) if there are large chunks of text or ASCII source code: I have no time to retype lots of material. Naturally, disks will be returned if an SAE is included.

Jon Ellis
Programmers' Forum
29 Ashridge Drive
Bricket Wood
St Albans
Hertfordshire AL2 3SR
Email: jonellis@uk.co.compulink.cix
(within UK, e.g. from JANET)
jonellis@uk.co.compulink.cix
(everywhere else)

```
Listing 1
=========

**
** Listing 1.
** Programmers' Forum STA 29 (May 1993)
**
** Initial draft of program to translate pathnames
** containing UNIX-style forward slashes into something
** the TOS can understand (backslashes).  Written by
** Andrew Renton.
**

* GEMTRAP.S
*
* Checks all requests for file access, and turns all occurrences
* of the / character into the \ character
* Hopefully solves the problem with GNU C++

*************
* Constants *
*************

GEMDOS          equ     1
P_termres       equ     49
D_create        equ     57
F_open          equ     61
F_seek          equ     66
F_dup           equ     69

BIOS            equ     13
Bconout         equ     3
console         equ     2
Setexc          equ     5

*****************
*Initialisation *
*****************

* Work out program size for Ptermres call

        move.l  4(sp),a0                ; base page address
        move.l  #$100,d6                ; base page length
        add.l   $c(a0),d6               ; code length
        add.l   $14(a0),d6              ; data length
        add.l   $1c(a0),d6              ; bss length

* Install our new GEMDOS handler
        lea     trap1(pc),a0            ; trap handler address
        move.l  a0,-(sp)                ; put on stack
        move.w  #33,-(sp)               ; TRAP 1 vector number
        move.w  #Setexc,-(sp)           ; SETEXC call
        trap    #BIOS                   ; call BIOS
        addq    #8,sp                   ; tidy stack

        move.l  d0,gemtrap              ; Save original address

* Trial call for debugging purposes
        clr.w   -(sp)                   ; Just open a file to try it
        move.l  #filename,-(sp)
        move.w  #F_open,-(sp)
        trap    #GEMDOS
        addq    #8,sp

* Terminate and stay resident
        clr.w   -(sp)                   ; Program return code
        move.l  d6,-(sp)                ; Program size
        move.w  #P_termres,-(sp)        ; TSR function
        trap    #GEMDOS                 ; exit program

*************************************************************************
* New Interrupt code
*
* 0(USP) WORD   function code
* 2(USP) LONG   in file functions, pointer to name of file ending in \0
*************************************************************************
trap1
        move.w  #7,-(sp)                ; bell character
        move.w  #console,-(sp)          ; Output device
        move.w  #Bconout,-(sp)          ; Bconout function
        trap    #BIOS                   ; Call BIOS
        addq    #6,sp                   ; Tidy stack

        move.l  USP,a0                  ; Paramaters are on user stack

* check its a file access call
        cmpi.w  #D_create,0(a0)         * check range of function
        blt     callgem                 * codes to see if it's ours

        cmpi.w  #F_dup,0(a0)
        bge     callgem

        cmpi.w  #F_seek,0(a0)
        beq     callgem

* If it's one of ours, check for slashes in the filename

        move.l  2(a0),a6
loop1
        move.b  (a6),d0
        cmpi.b  #'/',d0
        bne     noslash
        move.b  #'\',(a6)
noslash
        addq    #1,a6
        tst.b   d0
        bne     loop1

callgem
        move.l  gemtrap,a0
        jmp     (a0)                            ; Jump to original vector

filename
        dc.b    'C:/TXT',0

        EVEN
gemtrap
        ds.l    1
```

```
Listing 2
=========

**
** Listing 2.
** Programmers' Forum STA 29 (May 1993)
**
** Tidied up version of Andrew Renton's GEMDOS patch
** to change all forward slashes in pathnames passed
** to GEMDOS into reverse slashes so that the system
** understands them.
**
** Assembler system: Metacomco ASSEM v12
** Assemble options:
** Last modified on 6th March 1993
**



**
** Operating system symbols...
**

GEMDOS              equ       1
Cconws              equ       9
Ptermres            equ       49
Dcreate             equ       57
Pexec               equ       75
Fsfirst             equ       78
Frename             equ       86

BIOS                equ       13
Bconout             equ       3
Setexc              equ       5

_longframe          equ       $059E


**
** The program starts here with basic installation
** and initialisation.  The GEMDOS trap is installed
** and the program made resident.
**

          TEXT

; Calculate length of memory to save with Ptermres.

start     move.l    4(sp),a0            Fetch the basepage address.
          move.l    #$100,d6            Add up basepage length,
          add.l     $0C(a0),d6          code length,
          add.l     $14(a0),d6          data length,
          add.l     $1C(a0),d6          and finally the bss length.

; Print sign-on message.

          pea       signon(pc)          Our sign-on banner.
          move.w    #Cconws,-(sp)       Print string to the screen.
          trap      #GEMDOS
          addq.l    #6,sp
```

```
; Install the new trap handler.

          pea       trapl(pc)           Stack the address of our trap handler.
          move.w    #33,-(sp)           GEMDOS (trap 1) vector number.
          move.w    #Setexc,-(sp)       Exchange our vector for the existing
          trap      #BIOS               one which will be returned in d0.
          addq.l    #8,sp
          move.l    d0,oldvec           Save the original address.

; Make ourselves resident now.

          clr.w     -(sp)               Program return code.
          move.l    d6,-(sp)            Program size.
          move.w    #Ptermres,-(sp)     Terminate and stay resident.
          trap      #GEMDOS             Should never return...


; The signon message...

signon    dc.b      13,10,'UNIX -> TOS pathname converter',13,10
          dc.b      'from Programmers Forum, ST Applications 29',13,10,0

;-----------------------------------------------------------------------------
**
** The new GEMDOS trap 1 handler, complete with XBRA
** prefix to keep things tidy.  The function traps out
** the GEMDOS calls: Dcreate, Ddelete, Dsetpath, Fcreate
** Fopen, Fdelete, Fattrib, Pexec, Fsfirst and Frename.
**

          dc.l      'XBRA'
          dc.l      'SLSH'
oldvec    dc.l      0

trapl     lea       6(sp),a0            Assume args on supervisor stack.
          tst.w     _longframe.w        Is MPU 68000 ?
          beq.s     1$                  Yes, got right offset.
          lea       8(sp),a0            Allow for extra word on later MPU.
1$        btst.b    #5,(sp)             Were we called from supervisor mode ?
          bne.s     2$                  Yes - pointer is correct.
          move.l    USP,a0              Arguments are on user stack.

; Found arguments, now check for function codes.

2$        move.l    d1,savearea         Save register just in case.
          move.w    (a0)+,d0            Fetch the GEMDOS function code.
          cmp.w     #Frename,d0         Renaming is special case as there
          beq.s     do_rename           are two pathnames.
          sub.w     #Dcreate,d0         Check for functions above or
          bmi.s     go_old              below area of interest.
          cmp.w     #(Fsfirst-Dcreate),d0
          bgt.s     go_old
          move.l    #$24051F,d1         Bit map of supported functions.
          btst.l    d0,d1               Test for this function.
          beq.s     go_old              This is not one of ours, so ignore.
do_funcs  cmp.w     #(Pexec-Dcreate),d0 Pexec has filename as second arg.
          bne.s     1$                  Skip if not Pexec.
          addq.l    #2,a0               Skip over Pexec mode argument.
1$        bsr.s     replace             Fix up the filename.
go_old    move.l    savearea,d1         Recover registers.
          move.l    oldvec,a0           Fetch the old address...
          jmp       (a0)                ..and go to it now.
do_rename addq.l    #2,a0               Point to first filename pointer,
          bsr.s     replace             Fix up the first name.
          addq.l    #4,a0               Move to next argument.
          bsr.s     replace             Fix up next name.
          bra.s     go_old              Jump to actually do work.

**
** Subroutine to change all forward slashes in a
** null terminated string into reverse slashes.
** by a pointer to the buffer.
**    Inputs:         a0  -> Stacked address of string
**    Outputs:        None
**    Destroys:       d0-d1
**

replace   move.l    (a0),d1             Fetch pointer to string to do.
          beq.s     3$                  Ignore NULL string pointers.
          exg       a0,d1               Save the argument pointer.
1$        move.b    (a0),d0             Fetch each character.
          cmp.b     #'/',d0             Forward slash ?
          bne.s     2$                  No, so ignore it.
          move.b    #'\',d0             Replace with Atari backslash.
2$        move.b    d0,(a0)+            Write it into buffer zone.
          bne.s     1$                  Keep going until null terminator.
          exg       a0,d1               Replace the argument pointer.
3$        rts

;-----------------------------------------------------------------------------
```

```
**
** Data area - buffers to copy strings into.
**


          BSS

savearea  ds.l      1                   Space to save what's altered.

          END
```

```
Listing 3
=========


/*
** Listing 3.
** Programmers' Forum STA 29 (May 1993)
**
** Quick test to demonstrate the GEMDOS slash
** conversion program.
**
** Compiler system: Lattice C v5.52
** Compile options: -cargfku
**  Meaning: Enable ANSI mode, disable trigraphs, enable
**           non-ANSI keywords, assume unsigned chars
** Link with C.O and LC.LIB
** Written on 27th January 1992
*/


#include <stdio.h>

int main(int,char **, char **);

int main(argc,argv,envp)

int argc;
char **argv, **envp;

{
    FILE *fp;
    int c;

    if ((fp = fopen("/FIX/TEST.C","ra")) != NULL)
        {
        while ((c = getc(fp)) != EOF)
            putchar(c);
        fclose(fp);
        }
    else perror("Test failed");
    getchar();
    return (0);
}
```

```
Listing 4
=========


**
** Listing 4.
** Programmers' Forum STA 29 (May 1993)
**
** Quick program to demonstrate how to tell
** if the Desktop if the active process or
** not.  Note that this only works with the
** real ST Desktop, not with replacements like
** NeoDesk.
**
** Assembler system: Metacomco ASSEM v12
** Assemble options:
** Written on 7th February 1992
**



**
** OS service symbols...
**

GEMDOS    equ       1
Cconws    equ       9
Ptermres  equ       49


XBIOS     equ       14
Supexec   equ       38


_sysbase            equ       $4F2      Pointer to the base of the OS
nvbls               equ       $454      Number of VBI handlers
_vblqueue           equ       $456      Pointer to table of VBI handlers
vdr_colour_0        equ       $FFFF8240 Colour palette register 0
```

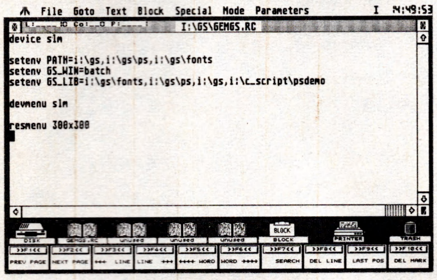
```
**
** The program starts here...
**

        TEXT

start   pea         install(pc)         We need to install in supervisor
        move.w      #Supexec,-(sp)      mode to access system variables.
        trap        #XBIOS
        addq.l      #6,sp
        tst.w       d0                  Did the installation work OK ?
        beq.s       1$                  No, exit with error message.
        pea         instmsg(pc)         Print the installation message.
        move.w      #Cconws,-(sp)
        trap        #GEMDOS
        addq.l      #6,sp
        lea         progend(pc),a0      Go resident, saving all memory
        sub.l       4(sp),a0            from basepage to end.
        clr.w       -(sp)               No error code.
        move.l      a0,-(sp)
        move.w      #Ptermres,-(sp)
        trap        #GEMDOS

1$      pea         errmsg(pc)          Print an error message...
        move.w      #Cconws,-(sp)
        trap        #GEMDOS
        addq.l      #6,sp
        clr.w       -(sp)               ...and return without going resident.
        trap        #GEMDOS

**
** To install the program, we first fetch some addresses
** needed for later, and then install a handler into the
** vertical blank list.  To check if a process is the
** Desktop or not, we will compare its code address with
** the ROM OS area, and with the block of RAM used by the
** OS.  This should cover us for normal (ROM) and disk-loaded
** (RAM) versions of the OS.  The code address of the current
** process is obtained using the new system variable '_run'
** whose address is obtained from the system header, or is
** hardwired to a particular address for TOS 1.0.  The method
** used to obtain _run is Atari-approved.
**
**    Inputs:       ** SUPERVISOR MODE **
**    Outputs:      d0.w  = 0 on any error, else OK
**    Destroys:     d0/a0
**

install move.l      _sysbase,a0         Fetch pointer to RAM header.
        move.l      $08(a0),a0          Use this to get ROM header.
        move.l      a0,sys_beg          Save this as the start of the OS.
        move.l      $0C(a0),sys_end     End of RAM loaded OS.
        cmp.w       #$0102,2(a0)        TOS prior to 1.2 ?
        bge.s       2$                  No, can just read it.
        move.w      $1C(a0),d0          Fetch the country code.
        lsr.w       #1,d0               Strip off the PAL/NTSC bit.
        cmp.w       #4,d0               Spanish TOS 1.0 ?
        bne.s       1$                  No, use normal TOS 1.0 value.
        move.l      #$873C,a0           Spanish TOS 1.0 _run address.
        bra.s       save_run            Store it.
1$      move.l      #$602C,a0           Normal TOS 1.0 _run address.
        bra.s       save_run
2$      move.l      $28(a0),a0          Fetch _run from ROM header.
save_run move.l     a0,active           Save it.
        move.l      _vblqueue,a0        Point to list of VBL routines.
        move.w      nvbls,d0            This list is this long.
1$      tst.l       (a0)+               Empty slot ?
        beq.s       2$                  Yes, exit now.
        subq.w      #1,d0               Loop for full list.
        bne.s       1$
        rts                             Return with error code in d0.
2$      move.l      #VBL,-(a0)          Install our handler, and return.
        rts

;==========================================================================
**
** VBL handler.  This gets the address of the currently
** active program's basepage out of _run, then fetches the
** start of the code segment from the basepage, and compares
** this with the known system areas.  If it lies outside such
** areas, it is considered to be a normal program, and the screen
** colours are normal.  Within these areas, the screen is inverted.
**

        dc.b        'XBRA'
        dc.b        'VBIN'
        dc.l        0

VBL     move.l      active,a0           Get pointer to active process variable.
        move.l      (a0),a0             Fetch the basepage address.
        move.l      $08(a0),d0          Fetch the text segment start.
        cmp.l       sys_beg,d0          Is this within the ROM area ?
        bhi.s       1$                  Yes, so invert.
        cmp.l       sys_end,d0          Within system RAM area ?
        blo.s       1$                  Yes, so invert.
        bset.b      #0,vdr_colour_0+1   Currently away from Desktop, so
        rts                             use normal colours.
1$      bclr.b      #0,vdr_colour_0+1   On Desktop, so invert.
        rts

;==========================================================================
**
** Program data area.
**

active  dc.l        0                   Pointer to _run variable
sys_beg dc.l        0                   Address of ROM OS start.
sys_end dc.l        0                   Address of end of OS RAM usage.

instmsg dc.b        $0D,$0A,'Desktop Detector installed OK',$0D,$0A,0
errmsg  dc.b        $0D,$0A,'No VBL slot for Desktop Detector !',$0D,$0A,0

        dc.l        0                   Longword align.

progend equ         *

        END
```

```
Listing 5
=========

/*
** Listing 5.
** Programmers' Forum STA 29 (May 1993)
**
** Sketch of desk accessory showing how timed
** operation could be coded.
**
** Compiler system: Lattice C v5.52
** Compile options: -cargfku
**  Meaning: Enable ANSI mode, disable trigraphs, enable
**           non-ANSI keywords, assume unsigned chars
** Link with C.O and LC.LIB
** Written on 27th January 1992
*/

#include <aes.h>
#include <portab.h>


/*
** Main program loop - allows accessory to be woken
** every minute to check the clock.
*/

    task_done = FALSE;
    while(TRUE)
        {
        wait_for = MU_MESAG | (task_done ? 0 : MU_TIMER);
        event = evnt_multi(task_done,0,0,0,0,0,0,0,0,
                           0,0,0,0,0,pipe,12000,0,
                           &junk,&junk,&junk,&junk,&junk,&junk);
        if (event & MU_MESAG)
            {
            /*
            ** Handle menu item selection and other message-
            ** based tasks here.
            */
            }
        if (event & MU_TIMER)
            {
            time = Tgettime();
            hour = (time >> 11) & 0x1F;
            minute = (time >> 5) & 0x3F;
            second = (time & 0x1F) << 1;
            if (hour >= alarm_hour && minute >= alarm_minute
                                   && second >= alarm_second)
                {
                do_work();
                task_done = TRUE;
                }
            }
        }
```

CAD Column

Joe Connor explains how to set up and run GhostScript, the excellent PD PostScript Interpreter.

GhostScript Tutorial

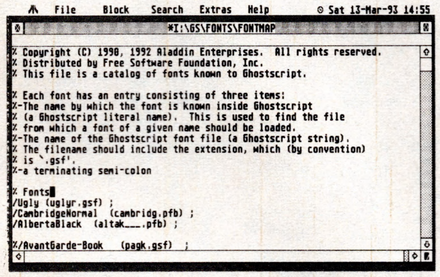


```
device slm

setenv PATH=i:\gs,i:\gs\ps,i:\gs\fonts
setenv GS_WIN=batch
setenv GS_LIB=i:\gs\fonts,i:\gs\ps,i:\gs,i:\c_script\psdemo

devmenu slm

resmenu 300x300
```

Above: this shows GEMGS.RC loaded into Tempus. All comments and unneccessary options have been removed, leaving this example configured for the Atari Laser printer. To set up a different printer the two lines showing 'device slm' should be edited to the name of the appropiate driver.

The three lines beginning 'setenv' configure the GhostScript envoironment. The first line indicates the full path to the location of the font files. The second tells GhostScript to use the GEM interface. The third indicates the default path to PostScript files, although the File Selector can easily load files from any path.

The resmenu entry is optional; if your printer supports more than one resolution you can add them here.



```
% Copyright (C) 1990, 1992 Aladdin Enterprises.  All rights reserved.
% Distributed by Free Software Foundation, Inc.
% This file is a catalog of fonts known to Ghostscript.

% Each font has an entry consisting of three items:
%-The name by which the font is known inside Ghostscript
% (a Ghostscript literal name).  This is used to find the file
% from which a font of a given name should be loaded.
%-The name of the Ghostscript font file (a Ghostscript string).
% The filename should include the extension, which (by convention)
% is `.gsf'.
%-a terminating semi-colon

% Fonts
/Ugly (uglyr.gsf) ;
/CambridgeNormal  (cambridg.pfb) ;
/AlbertaBlack  (altak___.pfb) ;

%/AvantGarde-Book   (pagk.gsf)  ;
```

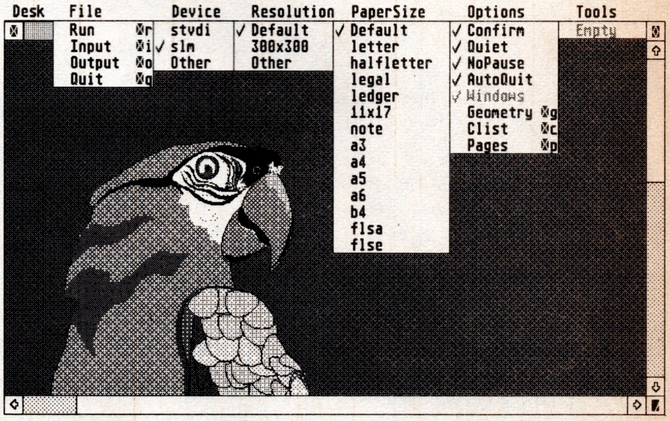
Above: FONTMAP is shown loaded into Alice (an excellent Shareware text editor). This file must be located at the path shown in GEMGS.RC otherwise GhostScript will be unable to load fonts. Lines preceded by a % symbol are comments and ignored by GhostScript. The example shown loads the default Ugly font together with Cambridge Normal and Alberta Black.

Most Postscript Type 1 fonts with the .PFB file extender will load into GhostScript.

Extra

Since the review of tbxCAD version 2.1 in STA 28, version 2.2 has been released. Along with the usual minor bug fixes and tool enhancements a new program to convert DXF files to tbxCAD format has been added. This enables CAD drawings from most popular CAD applications, DynaCADD, AutoCAD, GFA Draft, etc., to be loaded into tbxCAD.

GhostScript runs from a command line. Atarians are shielded from such low-level twiddling by the GEM interface, and so you may be relieved to see the cuddly GEM front end, shown right, has been bolted on. The options and default settings shown are all determined by the configuration file GEMGS.RC which can be edited using any ASCII text editor. If the STVDI option in the Device menu is selected, output is directed to the screen where it is displayed in a standard resizable GEM Window.



GhostScript is a Postscript Interpreter capable of printing Postscript files on a wide range of printers. Output can be previewed on screen in resolutions from ST Medium to TT high.

What can GhostScript do for me?

Both DynaCADD and CADja can output Postscript files via GhostScript. Many DTP applications, PageStream in particular, make use of Postscript output files. GhostScript can proof the files, either on screen or paper before committing them to the unforgiving clutches of bureau services. GhostScript can view and print the output of dvips. The combination of TeX, dvips, and GS can be used to preview TeX documents. Dvips also allows Postscript graphics to be easily included in TeX documents.

GhostScript has been ported to most hardware platforms with machine specific code and utilities added by enthusiasts. The Atari version is a TTP application, but don't panic! A GEM program, GEMGS.PRG, can be used to steer clear of the command line.

Getting up and running

Any ST/STe/TT model with 1MB RAM minimum will be able to run GhostScript. If you intend to use an Atari Laser printer 4MB RAM minimum is needed.

GhostScript will run from floppy but space for fonts will be tight. Happily, CAD output comprises mainly graphics. DTP users, however, will have to restrict themselves to the disk and memory space available to load fonts. Default text output uses the built-in Ugly font (and it is).

The range of built-in drivers is extensive; Screen driver, supports 1, 2, 4, and (sort of) 8 bit colour, Atari laser printer, GEM bitmap, HP DeskJet 500, Colour HP DeskJet 500, HP LaserJet, Canon BubbleJet, Epson 9- and 24-pin, Epson high resolution, Epson colour, NEC 360dpi, GIF monochrome bitmap, GIF 8-bit colour, Mono portable bitmap, Colour portable bitmap, High resolution Group 3 Fax, Low resolution Group 3 Fax.

The following printers have already been used successfully: the Atari Laser SLM804, Panasonic KX-P1124, HP Deskjet 500 and Star NB24/15.

Step by Step

1) Configure the GEMGS.RC file to match your set up and environment (see left).
2) Edit the FONTMAP file to reflect the available fonts (see left).
3) Boot the computer with the minimum number of Auto folder programs and Accessories as GhostScript is a memory hog.
4) If you are using the Atari Laser install the Diablo emulator; version 1.4 is recommended.
5) Set the output device in the Device Drop down menu. If the driver you require is not entered into the menu you can add it manually using the Other option.
6) Set the Resolution as desired.
7) Until you have a working set-up leave the Paper Size setting on default. Some experimentation may be needed to get the output on the sheet in the right place.
8) Select Input from the File Drop down menu and load a Postscript file using the File Selector.
9) Set the Output option. A Dialog appears offering a choice of File, CEN and PRN. The File option saves the output to disk for later processing. The CEN option bypasses the BIOS and directs output directly to the Centronics port. This only appears to work with some printer/Atari model combinations, but it's worth a try before resorting to the PRN option as it is up to four times quicker. The PRN option directs output through the normal BIOS routines to the Centronics port.
10) Select Run and the command line with all the parameters you have selected appears. Edit at your peril then select Run.

Nothing is perfect

The GEM screen gets overwritten by error messages, which is harmless but untidy. Error messages often disappear before they can be read; try removing Quit from the command line entry otherwise the Control S key combination can be used to pause the screen (Control C aborts most operations).

Multi-page output often falls over; try using fewer fonts if this happens. One workaround (for HD owners) is to use the ps2image.ps Demo file to convert multi page documents to a single massive file. This file can then be printed out normally via GhostScript.

GEMGS version 1.3 and GhostScript version 2.52 are available from the ST Club. Order: WPR.101.

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Classified adverts are free to subscribers.

Please use the form on page 58.

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Atari 520 ST With 1/2Meg External Drive £55. (not boxed) Various Software including: (Timeworks) Swiftcalc, (Ataris) Hyperdraw, Hyperpaint, (Futuresoft) Jackpot 2, (Kumas) K Graph 3: Phone with offers if interested 031 334 1114. (29)

Philips CM8852 Colour Monitor + Lead for Atari. Perfect Condition Only £75. Buyer collects. 0730 816602 Evenings, Weekends. Also NEC P6 Plus Printer £120. (From Parsons, Sunflowers, School Lane, Stedham, West Sussex. GU29 0NZ. (29)

Casio FZ Sample Disks - Huge Library of quality sounds - also Sound Patches for most major Synths, with ST loaders. Sale or swap - Ring for details: 1/4 meg Simms (4 of). One Pair Upgrades A 520 STE to 1 Meg. Only £5.00 each. Ring Andy - 0532-430177. (30)

Amstrad SM2400 Autodial Auto-answer 2400 Baud Modem. Manual and Lead included. Good Condition, £60. Tel. (0709) 895707. (29)

PageStream 2.2 £80, First Word Plus, Hisoft C, Superbase Personal £15 each, Introduction to Word Processing, Basic Programming & Programming Utilities £10 each, P.C.Ditto, Flair Paint £10 each, ST/Amiga Format 2-13, ST Format 1-20,23,26,34-38,40. ST Club Newsletters 15-31, ST Applications 1-4, 9, 14-24, ST User 42 issues March 88 -Present + other ST Mags. 92 Cover Disks in Total, Offers. Phone 0626 654645, Alan. (30)

Portfolio 32K Memory Card, Parallel Interface, File Transfer Software & Lead for ST to Portfolio. All £20 each. Serial Data Switch Box £5, Guide to Timeworks Book £5. Phone 081-851 5942. (29)

Wanted

Calamus Printer Driver for Cannon BJ-10E - B. Allen, 32 Saville Drive, Horbury, West Yorkshire, WF4 6JP. (30)

Yamaha CX5M/128 with Disk Drive and Software if poss. Keyboard not required. Please send details to:- M. Chapman, 24 Beamsley Drive, Wythenshawe, Manchester, M22 6UL. (30)

40Mb H.D. Visual Sample Editing Software to suit Mirage. Phone Jon 0323 500910. (29)

Cannon Bj10e Printer Driver for Calamus. Phone (0257) 252875 evenings James. (30)

Games to Sell: Badlands (Boxed unopened) £15, other games unboxed. All for £10: Supremacy, Hunter Corporation, Super Space Invaders, Batman, Ghost-Busters 11, Robocop. Following games £5: Rock Star Ate My Hampster, Passing Shot, Crackdown, APB, Night Raider, Janghier Khan's Squash. Enquiries ring after 5pm on 0270- 257182. All offers considered. (29)

Has anyone got Imagic collecting dust in their collection and would like cash for it. Phone Ron on 051 264 7347. (29)

GFA - Basic Software Development Book & Disk - 0834 871514. (29)

Hard Drive (Pref 80 Mb or more) Mega ST/E & PC Emulator. May purchase separately at reasonable price. Phone Paul on 0268 774089 (Essex) after 2pm please. (29)

Contacts

Wanted: ST Contacts, swap PD etc. Write for a list. All letters answered. Dave Moss, 22 Beverley Close, Chessington, Surrey, KT9 2RL. (33)

General

My Little Phoney BBS (0793) 849044 - all speeds up to V32bis and HST. Specialist Atari ST BBS, carrying all Atari-relatedfidonet and Nest Echoes, and importing international ST file echoes (AFN/ADN). High speed and technically aware callers are especially welcome! (R)

Crystal Tower BBS 01-886-2813 24hrs 300-2400 Baud (Towernet System) Atari ST, PC, Languages, Comms etc + much more. All welcome. (R)

Guide Dogs for the Blind Appeal - Please send used postage stamps to help this worthy cause to: 19 Dunloy Gardens, Newton Abbey, Co. Antrim, BT37 9HZ. (R)

STARGATE BBS: 0476-74616 V21 V22 V22BIS V23 Atari ST section; also PC, Amiga and Comms areas. Comms help and advice for ST and PC via ST Editor. Give it a call and leave a message. If you need comms software get Uniterm from the ST Club. (R)

Professional typeset from 1st Word disks. Over 100 Faces. Output to high quality PMT. Much better than laser. Also cheap printing A5/A4 single colour. Contact: AZTRAL Games, PO Box 8, Lowestoft, Suffolk, NR32 2AS. (R)

The Confederation BBS - Support bbs for all "HITCHHIKER" software releases and GFA programmers. All the latest PD/Shareware from Europe and USA as well as Netmail message areas. On line each evening 10.00pm to 7.00a.m., at all speeds up to 2400. Give us a call today and you will not be disappointed as we are the most friendly BBS in the country - dedicated ST BBS only. 0533 413443.

Help the Hungry in Africa. Please give your support to those facing drought, hunger and ruin. You can help by sending any old coins, stamps or used stamps to - OXFAM TRADING, Stamp & Coin unit, Murdock Road, Bicestor, Oxon, OX6 7RF. (37)

'Alternaties fanzine - Quarterly. £1 per issue. Issue 9 out now (Autumn), Issue 10 out soon. Send £1 (which includes p+p) and address to Alternaties, 39 Balfour Court, Station Road, Harpenden, Herts, AL5 4XT. Writers, visionaries, artists needed. Details to the above address.

SCANNER MANAGER

A specialised database system for all scanner owners, this software has been designed to be very easy and quick to use. Some of the features in the current software are: ability to store up to 20,000 channels/frequencies, up to 1000 channels held in memory for instant access, very fast searching and sorting of frequencies.

For further details contact: Stuart Coates. 9 Links Road, Kibworth Beauchamp, Leicester LE8 0LD.

STTRACK

Use up to four light beams with your ST. Measure speed and acceleration. Write data to disk for spreadsheet. Invaluable for science National Curriculum AT4. High resolution only. Software and manual with full details £20. Cheques payable to:

F.J. Wallace, 9 High Elms Road, Hullbridge, Essex SS5 6HB.

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STA29

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PD & Shareware Disks

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PD & Shareware disk prices

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Budgie UK disks are licenseware - not PD - and cost £2.95 or £3.95 ea. - please use the left hand column to order these disks.

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Ladbroke Computing International are one of the longest established home computer dealers in the U.K. We have developed an extensive customer service policy which involves testing of all Hardware prior to despatch to ensure that goods arrive in working order, offering free advice and support over the phone and keeping cutomers informed. Although our prices are not always the cheapest we do endeavour to offer consistently good service and backup.

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- We only use quality ICD controllers with clock.
- All drives include 12 months warranty & free expert support.

Data-Pulse + 42Mb	**£ 319.99**
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- Stores over 20Mb of data on a 3.5" Floptical disk, Reads/Writes 720K and 1.44Mb 3.5" disks.
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21Mb Floptical Drive	**£ 399.99**
Datapulse upgrade	**£ 299.99**
21Mb 3.5" Floptical Disk	**£ 24.99**

STE Packs

520 STE Discovery Xtra	**£219**
1Mb STE	**£229**
2Mb STE	**£275**
4Mb STE	**£329**
1040STE Curriculum 2	**£289**

Falcon 030

- 16MHz 32 bit 68030 Central Processor, 16MHz Blitter.
- 32 MHz 56001 Digital Signal Processor.
- 1.44Mb 3.5" Floppy, up to 14Mb RAM.
- Displays 65536 colours from 262144 palette at 768 x 480 resolution.
- 8 Channel, 16 bit, higher than CD quality, stereo sound sampling.
- Multi TOS MultiTasking Operating System.

FALCON 1Mb No HD	**£ 479**
FALCON 4Mb 65Mb HD	**£ 879**

Budget Hard drives

Limited Offer Bargain basement hard drives based on a GEsoft controller and 42Mb Quantum Mechanism. The Hard drive has no on board clock and is not compatible with an Atari Laser but will daisy chain to any existing Data-Pulse Plus drive. This is an ideal low cost introduction to Hard Drivin.

42Mb Budget Drive	**£249.99**

Printers

Star

Star LC100 Colour	£	165
Star LC20	£	124
Star LC24/100	£	179
Star LC24/200 colour	£	259

All Star Dot Matrix printers include 12 months on site warranty.

Starjet SJ48 Bubblejet	£	210
SJ48 Sheetfeeder	£	69

Citizen

Citizen 120D+	£	119
Citizen Swift 240 Colour	£	270

Hewlett Packard

HP Deskjet 500	£	339
HP Deskjet 500 Colour	£	449
HP Deskjet 550 Colour	£	580

Triumph Adler

JPR7825 Bubblejet	£	224

Lasers

Seikosha OP104	£	549
Seikosha 1Mb RAM	£	69
Seikosha Toner (2 units)	£	19
Seikosha Drum Unit	£	79
Ricoh LP1200	£	759

Add £3 for Centronics cable and £5 for next working day courier delivery.

Monitors

Atari SC1435	**£ 179.99**

The SC1435 comes complete with cable and tilt/swivel stand.

Philips 8833MKII	**£ 229.99**

Includes 12 months on site warranty and free Lotus Turbo challenge II.

Philips 15" FST Tv	**£ 229.99**
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- SCART input Tv
- Fastext teletext

8833 MKII-ST cable	£	9.99
Philips SCART to ST	£	9.99

ST Networks

Datanet Network Hardware

- Cartridge based high speed network solution.
- Compatible with ST(F)(M), Mega ST, STE, Mega STE.
- Connects via Coax and BNC connectors.

Powernet Network Software

- MultiTasking Network software allows applications to run on the server while drive and printer accesses take place in the background.
- Allows the mixing of Network types. ie DataNet, LanNet and MidiNet devices.
- Full Falcon compatibility using LanNet device.
- Ethernet compatibility and E-Mail coming soon.

DataNet with PowerNet	£	99.99
LanNet with PowerNet	£	89.99
MidiNet with PowerNet	£	59.99

Aries Upgrades

- Will fit any ST(F)(M) or Mega ST. Solder in design for higher reliability.
- Extremely compact in house designed Multi-Layer circuit board, smaller than a credit card.

  Upgradeable in stages from the base 512K to 2Mb then 4Mb.
- All Aries RAM upgrade boards come packaged in a 10 capacity disk box, complete with full fitting instructions and memory test software.

512K Board	£	39.99
2Mb Board	£	79.99
4Mb Board	£	129.99
512K SIMM's STE	£	9.99
2Mb SIMM's STE	£	49.99
4Mb SIMM's	£	99.99
2xSIPP to SIMM adaptors	£	3.00

Repair Services

Our Service department can repair ST's in minimum time at competetive rates. We can arrange for fully insured, courier pickup and return delivery of your machine to ensure it's safety. We even have a same day service which will ensure your machine is given priority and subject to fault, completed the same day. We can fit memory upgrades, PC Emulators, Security devices, ROM upgrades, hard drives to Mega STE's etc.

We offer a Quotation service for £15 for which we will examine your machine and report back with an exact price for repair. If you do not wish to go ahead with the repairs then just pay the £15. However if you do go ahead then the charge is included in the minimum charge.

Please note: The minimum charge covers labour, any extra parts are chargeable.

Quotation	£	15.00
Minimum repair charge	£	35.25
Same day service	£	15.00
STFM(E) PSU	£	39.99
1Mb Internal drive	£	39.99
TOS 2.06 + Switch STFM	£	65.00
TOS 2.06 + Switch STE	£	65.00
Courier Pickup	£	11.00
Courier return	£	7.00

GI Brush Mouse

"The Natural way to draw"

- 240Dpi resolution.
- Opto/Mechanical mechanism.
- 500mm/SEC tracking speed.
- Switchable between ST/Amiga.
- Direct Mouse replacement.

GI Brush Mouse	£	19.99

Mice

Golden Image Mouse	£	14.99

The Golden Image Mouse was recently given an Amiga Format Gold Award with 90% and offers 290 Dpi resolution, 2 high quality microswitched buttons and a free mouse mat.

Optical Mouse	£	24.99

The Golden Image Optical Mouse is a high quality, 3 button, replacement mouse. The fully Optical mechanism means no moving parts offering far higher reliability. Includes Mat.

Jin Mouse	£	7.99

Don't be deceived by the low price of this mouse. Mass production of the Jin mouse has resulted in a high quality Opto/Mechanical mouse featuring 290 Dpi resolution.

Ladbroke's Mouse mat	£	2.98

Please add £2 for P&P on mice.

Floppy Drives

- 720K formatted capacity.
- Double sided, Double density.
- Daisy Chain Through port for compatibility with older ST(M) machines.
- External Power Supply.
- Attractive case design.

GI External drive	£	54.99
ST Internal drive	£	44.99

Hand Scanners

- 100,200,300,400 Dpi resolutions.
- 1 letter mode, 3 photo modes.
- 105mm scanning head.
- Includes the excellent **MIGRAPH TOUCH UP 1.8.** This is the full package with manual.
- Includes **DELUXE PAINT ST**, full package with animation and manual. One of the best available art packages for the ST.
- **MIGRAPH's OCR** Package available as an Upgrade to all Golden Image Scanner Owners.

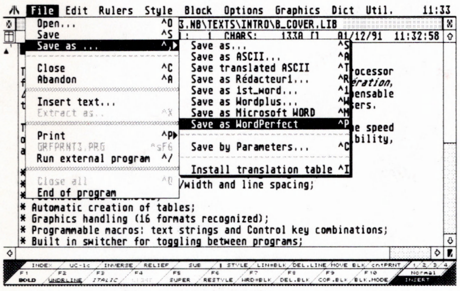
Golden Image Scanner	£	119.99

Silhouette

- Autotraces bit image graphics to resolution independant vector graphics.
- Produces Beziers, B-Splines, High resolution grey scales.
- Imports IMG, DEGAS, TINY, MacPaint, GEM, SGF files.
- Exports IMG, GEM(1,3), SGF, DXF, EPS(Postscript) files.
- Requires 1Mb ST, Hi-res monitor.

Silhouette	£	60

Calamus CVG support coming soon.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Print ^P
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Run external program ^/
Close all ^Q
End of program
Save as... ^S
Save as ASCII... ^A
Save translated ASCII ^T
Save as Rédacteur1... ^R
Save as 1st_word... ^1
Save as Wordplus... ^W
Save as Microsoft WORD ^M
Save as WordPerfect ^P
Save by Parameters... ^C
Install translation table ^I
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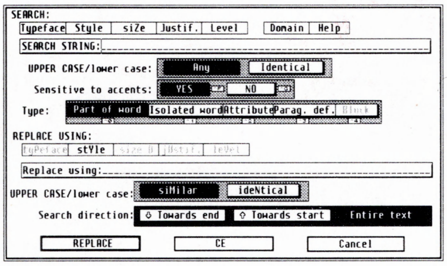
F1 F2 F3 F4 F5 F6 F7 F8 F9 F10
BOLD UNDRLINE ITALIC LIGHT SUPER RESTYLE WRD=BLK DEL.BLK COP.BLK BLK.MODE
Normal INSERT

3.NB\TEXTS\INTRO\B_COVER.LIB

1: 1 CHARS: 133A [] 01/12/91 11:32:58

```
/width and line spacing;
* Automatic creation of tables;
* Graphics handling (16 formats recognized);
* Programmable macros: text strings and Control key combinations;
* Built in switcher for toggling between programs;
```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Replace using:
siMilar
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Towards end
Towards start
Entire text
REPLACE
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Cancel

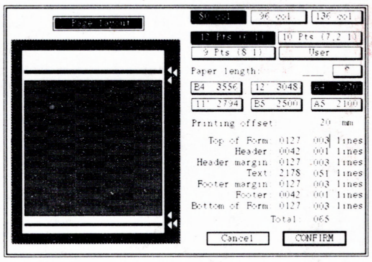
UPPER CASE/lower case: Any

Sensitive to accents: YES

Type: Part of word

UPPER CASE/lower case: siMilar

Search direction: Entire text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10 Pts (7.2 1)
9 Pts (8 1)
User
B4 3556
12' 3048
A4 2970
11' 2794
B5 2500
A5 2100
Cancel
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Paper length:

Printing offset 20 mm

Top of Form 0127 003 lines
Header 0042 001 lines
Header margin 0127 003 lines
Text 2178 051 lines
Footer margin 0127 003 lines
Footer 0042 001 lines
Bottom of Form 0127 003 lines
Total 065

3 versions

There is now a version of Redacteur to suit all budgets.

Redacteur 3 - £99
The full package with all of the features and modules.

Redacteur Lite - £69
Redacteur Lite is identical to the full Redacteur 3 package, except that it is supplied without the following modules: Sigma Equation Editor (£10), AZtheque Database (£10), Font Editor (£5), Dictionary Editor (£5), French Dictionary (£5). You may buy any of these modules along with Redacteur Lite, or later on. Prices shown in brackets.

Redacteur Junior - £39
The main wordprocessor from the Redacteur 3 package - amazing value. Limited to printing using our printers built in fonts - no graphics mode printing and without the modules detailed above.

Spelling checker and mail merge for Redacteur Junior - £8
Redacteur Lite modules may be used with Redacteur Junior.

Upgrades:
Lite - to Redacteur 3 - £30.
Junior to Redacteur Lite - £30

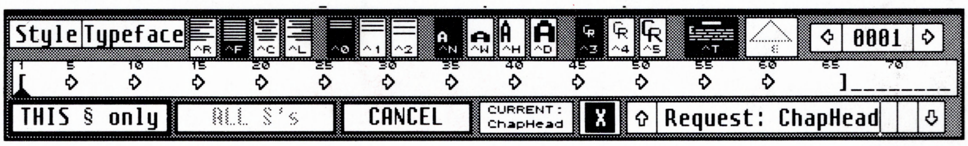
Redacteur Fontpac Plus set:
Arbor Low, Castleton Roman, Crich, Dale Abbey, Derwent, Haddon, Hardwick, Monsal, Snake Pass, and Wye. Cost £6.95

Demo Disk
An evaluation disk containing a demonstration version of Redacteur 3 is available at 75p - see order form .

Press Reports

"Quick and responsive ... brings excitement and pleasure back into wordprocessing." ST User, June 1992.

"Redacteur 3 is excellent ... the best bits of other wordprocessors combined into one." 90% and a Gold Award. ST Format May 1992.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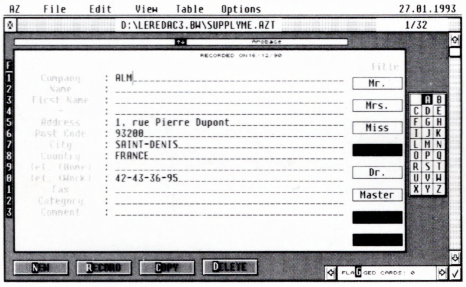
5 10 15 20 25 30 35 40 45 50 55 60 65 70
THIS § only
ALL §'s
CANCEL
CURRENT: ChapHead
X
Request: ChapHead

Redacteur

Rédacteur has become the main word processor for the ST in France and it is daily use by journalists working for the newspapers Libération, Oeust-France and La Voix du Nord.

With over 7,000 users in France Redacteur 3 has become the standard by which all Atari word processing packages are judged.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Mrs.
Miss
Dr.
Master
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
NEW
RECORD
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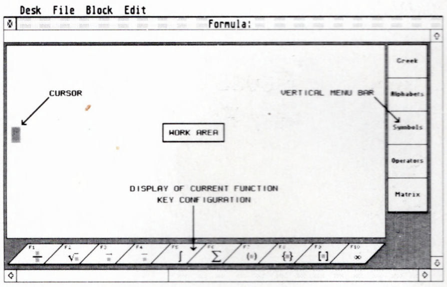
DELETE
FLAGGED CARDS: 0

Company : ALM
Name :
First Name :
Address : 1, rue Pierre Dupont
Post Code : 93200
City : SAINT-DENIS
Country : FRANCE
Tel. (Home) :
Tel. (Work) : 42-43-36-95
Fax :
Category :
Comment :


Desk File Block Edit
Formula:
CURSOR
WORK AREA
VERTICAL MENU BAR
DISPLAY OF CURRENT FUNCTION
KEY CONFIGURATION
Greek
Alphabets
Symbols
Operators
Matrix
F1 F2 F3 F4 F5 F6 F7 F8 F9 F10

Features:

- ❑ Multiple rulers, paragraph styles and page layouts;
- ❑ Choice of character height/width and line spacing;
- ❑ Footnotes and endnotes;
- ❑ Automatic creation of tables;
- ❑ Graphics handling (16 formats recognized);
- ❑ Programmable macros
- ❑ Built in switcher for toggling between programs;
- ❑ Font Editor and Editor for mathematical formulae;
- ❑ English and French spell checking plus Verb conjugation;
- ❑ Editor for user-defined dictionaries;
- ❑ Automatic Hyphenation;
- ❑ Option to save text files in compressed format;
- ❑ Saves in ASCII with or without end of line carriage returns, First Word (Plus), Word Perfect and Microsoft Word formats;
- ❑ Full configurability of most functions;
- ❑ Database and Mail Merge.

Runs on any Atari ST(E), Mega ST(E), or TT with at least one megabyte of memory.